

CHAMBERS'S

Journal

APRIL
1950

LUCKY DOG
By ROLAND PERTWEE

SCHOOL FOR RURAL CRAFTSMEN
By TREVOR HOLLOWAY

MAGICAL DANCE SURVIVALS IN BRITAIN
By FRANCES COLLINGWOOD

THE MAN WHO SAW AN ANGEL
By MICHAEL JACOT

MODERN MAMMOTHS
By FRANK ILLINGWORTH

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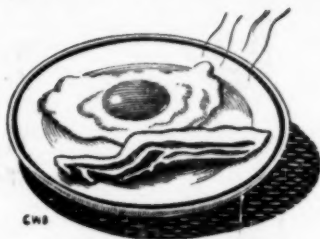
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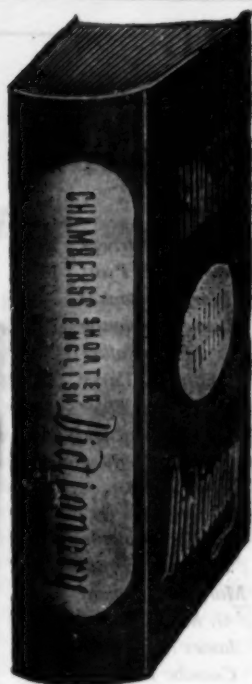
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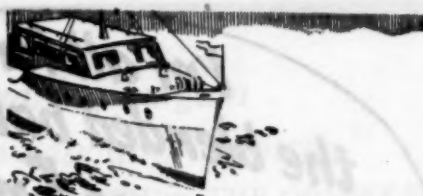
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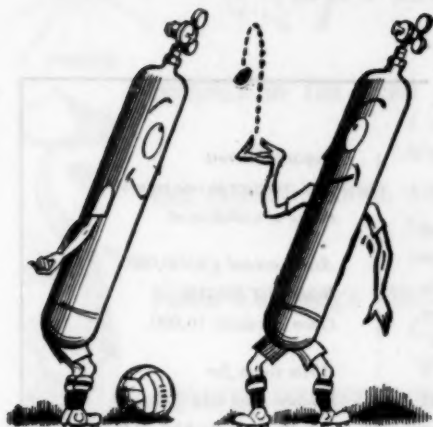
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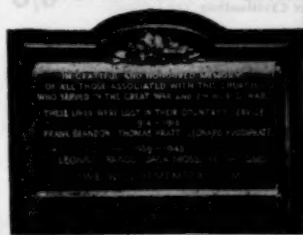
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IT was Bruno gave warning of the approaching car, straining at the chain which anchored him to his kennel and barking his head off. Bobbie was in the cattle-byre alongside, into which he retired when feeling low or while Bruno was eating his dinner. For Bruno had bigger and better dinners than Bobbie, André and Marie Yvetot being poor folks who could no longer afford good meals for both dogs. Then, too, Bruno was a gift from Marie's mother, who owned the farm of which their steading was a very small part, and who was not the woman to offend. Bobbie was too loyal to question the justice of his reduced and sometimes non-existent rations. He assumed that his master knew and did what was right, but when the lean period first started he would sometimes fling himself towards the rusty German helmet in which Bruno's meals were served, ignoring the fact that his chain was too short to allow him to reach it.

Only in the mayfly season, and occasionally in September, would a car come down the lane from the Arques-la-Bataille-Torcy road, and its coming meant that there would be fishermen about.

The car stopped near the steading gate and the footbridge which spanned the Varenne. Meenou, the nanny-goat, whose two kids were asleep in the lane, was in a rare taking for fear it would run them over, but, sensing the danger, the kids had vanished like flickers of sunlight into the protection of the hedge. Anyway, there was nothing Meenou could have done to help, for she was tethered by a short length of rope to an iron stake in the bank where, to keep a bag full against her youngsters' growing needs, she was busily devouring a round meal of couch-grass, the

spears of irises, campion, buttercups, and savoury stinging-nettles. Both banks of the lane were scarred with neat circles where Meenou had eaten all that nature and the length of her rope allowed.

JOAN WARING jumped from the car and looked about her with delight. She needed a soothing influence for, coming from Dieppe, the car had startled two small birds from the roadway and she had seen only one of them fly over the fence. Joan had a tender spot for creatures of the wild and, afraid of spoiling her day, she had not looked back, but a nasty little fear had disturbed her ever since. Entranced by her surroundings, she said: 'I don't believe it's true.'

Ben, her husband, who had seen a few mayfly spinners bouncing up and down beside an osier, said: 'Things look promising. Get lunch ready while I put up the rods.'

He set about doing so with the intense preoccupation common to fishermen, while Claire, the farm-hand's little three-year-old daughter, peeped at Joan from behind a pile of brushwood, and Albertine, the cow, forsaking a mischievous attempt to pull all the washing off the line, sauntered over to the gate with a small pair of culottes in her mouth. Came then Marie Yvetot, armed with a rusty pail and a hurricane of rebuke. Having rescued the culottes, she threw Claire's smock over her head, revealing a rosy, dimpled behind, and popped her into them for their mutual safety. A moment later she was on her knees milking and scolding Albertine, while Bruno barked, a willow-wren sang, mayfly spinner bobbed incessantly, and Meenou's kids rolled from the hedge in a

CHAMBERS'S JOURNAL

mock battle like something out of a Walt Disney film.

WHILE getting the lunch ready, Joan established smiling relations with Claire, and through Claire with Marie, who begged madame not to let the child derange her.

It is hard for English girls to overcome an initial reluctance to talk in a foreign language, but Joan's reply, '*Non, non,*' was spoken with a wealth of friendliness. Further conversation was obstructed by Albertine's refusal to stay in one place, and before the milking was finished she and Marie were fifty yards away. So Joan turned her attention to Bobbie who, at long last and towing his chain after him, crept through the hole in the byre and greeted the strangers with a quiet and conciliatory bark. There was something about that meagre body on its heavy chain that awoke an instant pang of sympathy in Joan's heart. Avowedly, she was a girl with an aptitude for falling in love at first sight with other people's dogs, but in the case of Bobbie the attack was more severe than usual. 'Ben darling, you must look,' she cried. 'Did you ever see such a serious little face?'

'Probably has something to be serious about,' Ben grinned, and plumped himself down in the freckled shade of an apple-tree to enjoy his lunch.

And what a lunch, with prawns from the Dieppe fish-market, slices of pâté and cold meats, a creamy, crumbling cheese, and pastries of a kind unknown to English people since the summer of 'thirty-nine. Joan was half-ashamed of its richness and abundance when André Yvetot came trudging along the river-path to his own midday meal. He was a gentle, subdued man of middle age, who seemed troubled or resentful about something. His expression changed to a smile of welcome when he saw the strangers, and he lifted his hat to wish them good-day. Feeling that a word of explanation was indicated, Ben told him in plain English, translated into even plainer French, that they had taken the fishing for a week from the lady at the farm.

André nodded: 'Yes, yes—the widow Rouvier, my wife's mother. I work for her,' and the look of resentment came back into his eyes. 'Well, *bonne chance, m'sieur et dame*. There are many gross trout to be caught in the river.'

Until then the car had hidden him from Bobbie, but as he came into view the dog barked joyously and struggled to be free.

'That little one, he is a fool,' André sighed.

It was none of her business, but Joan could not resist asking: 'Are your dogs always chained up?'

'Now they are—they must be.'

'Must they—why?'

'It is better so. Running about makes them too hungry. It is very difficult.'

Shaking his head, he went through the gate. He did not stoop to pat Bobbie's head when he came to the byre, but went by looking at the ground. So Bobbie stopped his joyous barking and retreated into the darkness of the byre.

'I wonder what he meant by that?' Joan mused, with a troubled frown, but Ben was watching a mayfly, breeze-borne from the river, snatched from within an inch of a reed-warbler's beak by a sheering swallow.

MARIE YVETOT had a bowl of soup with a foot of crisp bread beside it waiting for her husband's dinner. She told him that the English fisher had a beautiful carriage and his wife a good disposition. Although in no position to make presents, she said: 'When the milk has cooled we will give them a bottle. They do not get much milk in England.'

André agreed that the English had suffered much from the war, and still did.

Then Marie put the question on which so much depended. 'Tell me—what did *maman* say?'

'She refused. She said it was no fault of hers that two of our cows had died of the fever.'

Marie nodded philosophically. 'That is true enough.'

'I offered to work overtime for half-pay, but she said there was no need for extra work on the farm.'

'Which is true again.'

'She reproached me for having no savings, and when I asked how a man could save who was for five years a prisoner of war, she said I was a fool to be caught.'

'She is never without an answer,' Marie sighed. 'Did you tell her we could not afford food enough to feed both dogs?'

André's tan turned to a dull red. 'Yes, and she told me to shoot Bobbie.'

Marie shook her head. 'Always they are practical her answers.'

'One does not shoot a friend.'

'No, but to do so would be kinder than letting him starve.'

André did not trust himself to reply. He turned and looked through the window to where Joan and Ben had risen and were brushing the crumbs from their laps.

Joan said: 'There's heaps left, and it'll never keep in this heat. Do you think these people would be offended if I offered it to them?'

'Easily might be. Smallholders are an independent lot.'

'I know, and I'd be terrified of asking, but it's awful wasting such heavenly food. How about smuggling that *pâté campagne* to the dogs?'

'It'd probably make 'em sick. You might get off those macaroons on the little girl, though.'

'Yes, I'll do that. Don't wait for me, and good luck.' As he turned towards the river, she added, wistfully: 'Do you think we did kill that little bird on the way here?'

'I hope not. It often looks as if you have when you haven't.'

JOAN was desperately ashamed of burying what was left of their lunch in the ditch, but Claire's enthusiasm over the macaroons made her feel better about it. Claire decided to eat them in the car, and bounced about on the seats at the same time. André, returning to his mother-in-law's fields, told Joan not to let the child derange her. She had a good disposition, he said, but was not very sage.

When he had gone, Joan asked the dogs' names, and was given the somewhat obtuse reply that Bruno barked loudest because Bobbie was too thin. Turning to more important considerations, Claire expressed hearty approval of the car. Maman and papa had bicycles, but a carriage was more practical, she said. Asked why Bobbie stayed in the barn all the time, Claire cheerfully replied: 'Perhaps he will die soon.'

On her way to the river, Joan made friendly overtures to the dogs, in return for which Bruno offered her a bite, but Bobbie, whom she recognised as a mongrel basset, came through the hole, growled unconvincingly, then retreated, leaving a slowly-wagging tail behind him. She was trying to coax him

out again, when Marie approached and covered her with shame and confusion by pressing her to accept a bottle of milk.

Because the stranger was talking to his mistress, Bobbie came out to be introduced. Marie said: 'Do not trust Bruno, but it will be safe to stroke Bobbie. He is too unhappy to bite.'

The matter-of-fact way in which she said it did not rob the words of a hint of tragedy.

'Why is he unhappy?' Joan asked, and rested her rod against an apple-tree to listen to the answer.

THERE are few lovelier chalk streams than the Varenne, with its sliding shallows and sleek deep pools of olive-green. A scattered hatch of mayfly was coming down, and Ben took the first rising fish he saw with a fly of his own dressing. After this promising start he spent some time marking future targets and getting to know the water. While he was doing so, someone upstream had been cutting weed, and when he started to fish seriously nearly every cast was fouled by floating green stuff. In one of the rare moments when the water was clear, he got into a socking good fish, nearer three pounds than two, but as he was bringing it to the net a great raft of weed smothered it, breaking his cast at the point. Avoiding similar troubles kept him busy and watchful for the rest of the afternoon, and it was not until he turned downstream towards the car that he wondered why Joan hadn't joined him. He found her sitting on the bank staring pensively at nothing in particular, but on hearing his voice she jumped up and exclaimed enthusiastically at the bright gleam of trout behind the net container of his fishing-bag. 'Oh, you have done splendidly!' she praised.

He had, too, so splendidly that he did not notice the wobble in her voice. Three brace of trout were laid on the grass, and every one had a tale to go with it.

On the run back to Dieppe Ben was still describing his victories, but checked himself in the middle of a sentence at the sight of a dead bird lying at the edge of the road with his mate standing sentinel beside the body. She barely moved as the car shot by, but seemed either to be waiting for a miracle, or stunned by grief. Ben did not know that birds mourned each other, and hoped de-

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voutly that Joan had not seen, but she had, and was suddenly shaken by big, noisy sobs. He stopped the car and put an arm round her for comfort.

'It isn't only that I'm crying for—it's Bobbie,' she said, and did her best to tell him why.

BOBBIE was six weeks old when he was bundled into André's arms by an English gunner at Amiens railway-station. André was returning home after five years in a prisoner-of-war camp and the gunner was on his way back to England. 'Can't take 'im with me, chum, and I dessay 'e'd sooner stop in 'is own country, so 'e's all yours.'

André had not the least idea what the man was saying, but Bobbie, with his crumpled face and fat pink tummy, was the youngest thing he had seen or handled for a very long time. So he accepted the pup with sober delight, and Bobbie, approving the exchange, made clicking comfortable noises with his tongue and went to sleep buttoned inside André's shabby greatcoat.

The Germans had used the steading as a billet during the war, but with the liberation the widow Rouvier patched it up for her daughter and son-in-law's return. From her own abundance, she let them have three cows, a dozen chickens, a rabbit in kindle, and Meenou, the nanny-goat, in return for an undertaking that André would repay their value by working six hours a day on her farm for nothing. Bruno was thrown in to act as watchdog. This little farm within a farm was already in being when André trudged down the lane for the first time for nearly six years. While he was soberly embracing Marie, Bruno tried to kill Bobbie, and would have succeeded if Bobbie had not retired under the armoire where the space was too small for Bruno to follow and finish him off.

So Bruno was chained to his kennel, and when Bobbie grew up he, too, was put on a chain, just short enough to keep him out of reach of Bruno's teeth. But in those early days he was not always kept captive, but sometimes would accompany André on his work in the fields or run beside Marie's bicycle when she was visiting neighbours. Every Saturday he went with them to the market at Dieppe, pulling sturdily on a trace attached to the undercarriage of an aged perambulator, in which might be a couple of

young cockerels, their legs tied together to prevent escape, or a rabbit, with apprehensive eyes, under a bit of net with cabbages, lettuces, and fresh-pulled carrots to keep it down. Now and then a restless bag of snails was added to the cargo and, while rationing was still in force, a bit of contraband cheese or butter perhaps would occupy a cunning hiding-place. Sometimes stops would be made to snatch flowers from the hedgerows and lump them together in cones of newspaper for selling to children or less discriminating buyers. All this merchandise would be spread invitingly on the kerbstones of the Grande Rue, with Marie presiding over it and loudly protesting if prospective customers pinched the cockerels' breasts too roughly or inquisitively. Meanwhile, André might be buying the tools of his trade, or listening to politics being discussed by other and wiser men, and Bobbie would be snoozing watchfully under the perambulator in a quiet side-street. When the goods were sold, and André and Marie joined him, he was always awake and smiling, and was as pleased with his part of the day's work as they were. Before going home there would be a glass or two of cider at one of those cafés facing the quay where old women in black sit before great piles of periwinkles and buckets swarming with angry little crabs.

Bobbie did most of the pulling on the way home, for his owners were liable to feel drowsy after all their activities and the cider on top of them. He liked to feel the weight of the perambulator against his shoulders and know that he was doing his bit to make the wheels go round, for, like all good Frenchmen, he was unfailingly industrious.

IT was not long before the baby came, the perambulator and the Yvetots' living expenses growing heavier in consequence. One of the cuts that had to be made to give the baby a proper start in life was in the quantity of food given to the dogs. The effect was not noticeable at first, but undernourishment told when there was heavy work like hauling to be done, and now and then Bobbie would stop pulling and sit under the perambulator with a lolling tongue and pumping lungs. He was bitterly ashamed of this weakness, but could not help it.

The real pinch came when two of the cows died of the fever. André had just succeeded

in working off what he owed for them, so the blow fell squarely on shoulders not broad enough to bear it. A substantial part of the family income was derived from the sale of milk, and with this reduced by two-thirds it was hard to make both ends meet. Inevitably there were further cuts all round, and a first symptom of their severity was when Bobbie, whose rations had been reduced to a shadow, collapsed under the perambulator and could go no further.

André did not beat him as many masters would have done. He unfastened the trace and told him to find his way home. This Bobbie did in shame, and very slowly, for his belly was empty, and over his eyes were sunken hollows which tell their own tale to those who understand dogs.

However meagre it might be, it was a shocking humiliation being deprived of the honour of earning his keep, and the first time the perambulator went to Dieppe without him Bobbie nearly strangled himself in an effort to break the chain. He behaved as André had done when, years before, he had flung himself hopelessly against the barbed-wire of the prison camp. But in the lean months that followed, again as André had done, he schooled himself to accept the world as it was, to take the rough with the smooth, and hope that one day things would improve.

'AND now,' gasped Joan, struggling to get the words out, 'that beast of an old woman has told them to shoot him, and I can't stand it.'

She was too upset to have told the story as it is told here, and to Ben it was more an expression of his wife's despair than a tale about a dog that he listened to, but he was none the less affected on that account.

'Oh, damn and blast the whole thing!' he exploded, for swearing helps in times of emotion. 'But at least we can leave a hundredweight of dog-biscuits at the farm to-morrow.'

'I thought of that, darling, but what's the use, if things are going to be just as bad again when they're finished?'

'What else can we do? We can't subsidise the poor little brute.'

'But we could take him back to England, Ben, and I want to.'

He shook his head. 'Six months in quarantine, remember.'

'I know, but your business is keeping us in Europe until August and by then he'll have got to know us, and after all quarantine is better than being shot.'

A week later, flead, bathed, and wholly bewildered, Bobbie was put into the car by Joan, and Ben rubbed his ears to give him confidence. André was not there to say good-bye, but Marie expressed the view that he was a very lucky dog and waved Claire's hand for her as the car moved away.

Where the lane turned into the main road, Bobbie escaped from Joan's lap and flung himself against the window in the back panel. So Joan put on the bright yellow collar and lead she had found at a saddler's, and after they had gone a few miles on their way towards Paris Ben stopped the car and she gave him the fine dinner she had bought from a Dieppe *charcuterie*. It was rather disappointing that he refused to eat it, but lifted up his head and howled.

AT supper that night, André said: 'We should not have given him away.'

'What folly!' Marie retorted. 'He is fortunate to be going with the English who are very gentle.'

André replied: 'He was our dog and can never be anybody else's.'

'He would have been nobody's dog if you had had to shoot him.'

'I would never have shot him—never.'

'Then he would have starved.'

'He might have starved, but I would not have shot him. I would have shot your old mother first.'

A frenzy of barking from Bruno sent him to the door, at which a breathless girl appeared. 'The widow Rouvier has fallen under the table with foam in her mouth,' she gibbered.

That night the widow Rouvier died with clenched teeth, all her property and what was hidden in the mattress going to her daughter, Marie.

Returning home at peep of dawn, André's eyes turned reproachfully to the hole in the cattle-byre, from which dangled a rusty end of chain. 'He could have lived like a prince,' he said.

IN Paris, Joan bought Bobbie an upholstered basket, which he refused to sleep in, choosing instead the bare boards beneath the window.

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Joan said he would soon get used to it—but he didn't.

* * *

At Avallon, on their journey south, they stopped for a walk through the crowded market-place. For no apparent reason, Bobbie slipped from his lead and took refuge beneath a crazy perambulator with live ducks in it. He growled quite unpleasantly when Joan hauled him away.

* * *

At Lyons, where Joan bought him an indiarubber mutton-cutlet in natural colours and a ball which rattled when you shook it, he refused to have anything to do with either.

'I do think he's a tiny bit ungrateful,' she sighed.

Ben said: 'I always told you these small-holders are an independent lot.'

LATE in August, his business finished, Ben drove from Le Havre to Boulogne to catch the night boat. By Joan's choice they took the coast road. It was very hot, and all the car windows were down. Bobbie occupied his accustomed place on the floor beside the back seat, for he had made it clear that he was allergic to sitting on laps. Passing through Ouville-la-Rivière, he sat up at the impact of a familiar scent. It became more and more unmistakable as the car approached Dieppe.

Joan said: 'It's market day, so we'd better cut through by the back streets and dodge the crowds.'

So Ben turned right instead of continuing down the Grande Rue, and that was when Bobbie took French leave. From behind the war memorial he watched the car bumping over the *pavé* towards the level-crossing. He did not feel safe until it was out of sight, when, with a new and almost frightening sense of freedom, he trotted along to the side street where the perambulator would be waiting.

It wasn't there.

Bobbie sat down where he had sat a hundred times, and frowned. Then he noticed that most of the other perambulators and barrows were absent, and realised that it was later in the day than he had imagined.

'They will be drinking cider in the café,' he thought, and set off to find them—in vain, although the woman who ran the place, a rough, smiling woman, with a bright-red nose for comedy, exclaimed: 'Where have I seen that dog before?'

A customer, in a faded blue cotton coat and trousers, said: 'If he were not so fat, he would resemble the dog the Yvetots had before they became rich.'

But Bobbie had gone when the woman looked to see. He had lost some of his spirits when he turned from the arcade into the litter left by marketers in the Grande Rue. He had resolved to sniff his way along the kerbstone and find the place where Marie had sold her wares, but, though he sniffed scrupulously, he could not scent a trace of her.

Wondering rather anxiously what could have happened to her and to André since they never missed a market-day, he decided that the only thing to do was to go home and find out, but as he was passing the Café des Tribunaux, where the well-to-do members of the town and neighbourhood refresh themselves on crimson plush or elegant cane-chairs on the wide pavement, he saw a sight that he could not believe. He saw André in a black suit with a collar and tie, with Claire perched on his knee, and Marie wearing the sort of dress and haughty expression property-owners are entitled to wear. He had barely taken it all in, when a car swung out of the Rue de la Poste, and an English voice cried out: 'Darling, stop! He's there!'

Bobbie did not wait for the inevitable, but, in defiance of precedent, hurled himself upon his master's lap, sending Claire head-over-heels into a shopping-basket.

After that many Pernods were drunk, and there was much handshaking and congratulation, and for the first time in their acquaintance, probably because it had come to an end, Bobbie licked Joan's face from chin to eyebrow.

'At least you will let us drive you back to the farm,' Joan offered.

But Marie shook her head and smiled. 'Madame is too kind,' said she, 'but we have our own carriage,' and, with justifiable pride, she pointed at a five-horse-power, clover-leaf Citroën, which first saw the light of day in the spring of nineteen-twenty-seven.

Before the Age of Gunpowder

E. C. PYATT

THE rapid development of explosive fire-arms after their first introduction into this country about 1325 brought to a close an era of war in which man had displayed ever-increasing ingenuity in the application of purely mechanical forces in attack and defence. With it, too, went that picturesque defensive unit the mediæval stone castle, the development of which had far outstripped that of the offensive weapons brought against it. Thenceforward castles were built for comfort rather than for defence, with larger rooms, thinner walls, and more windows. Finally, in the Civil War, many of the old castles were put into commission again and defended for the King. In almost every case the well-directed cannon-balls of Cromwell's artillery shattered the massive towers, breached the walls, and enforced surrender in a short time; even Caerphilly Castle—crowning glory of mediæval castle-building—fell in this way. Thus many of our castles are in a far worse state than they might have been had their decay been left entirely to nature; however, a varied collection of ruins remains, from which it is still possible to study the relative progress of attack and defence, and to build up a picture of the wars fought around them in those far-off days.

FOR the reduction of castles, the mediæval besieger possessed several kinds of siege-engine, records of which have been handed down to us in tapestries and manuscripts. In some places there remain platforms on which siege-engines were mounted, notably at Berkhamstead, where those built by the Dauphin in 1217 can still be seen. Elsewhere are samples of missiles actually thrown into castles during sieges. A large number of names were applied to these types of engine, often the same name for more than one type,

so that it is sometimes difficult in written records to tell what exactly is being referred to.

The 'tension' engine was essentially an oversize crossbow set upon wheels, the propulsive power being supplied by the bending of wooden beams drawn back by ropes attached to the ends, as in an ordinary bow. This could fire metal-tipped shafts—javelins or spears—or even large stones suitably held against the ropes. Another form of tension engine, also firing shafted weapons, had a springy board, which was retracted and then released, striking the end of the missile and propelling it towards the foe.

The 'torsion' engine consisted of an endless skein of specially prepared animal sinew or hair held between two massive fixed uprights. A beam, with a large cup-shaped depression at the end to take the missile, was threaded through the centre of the skein between the uprights. The cupped end of the beam was drawn down to the ground and clamped there. Now the skein was twisted up by handles fitted with ratchet-wheels, until further twisting was impossible. On releasing the cupped end of the beam, the tremendous torsion of the skein rotated it at high speed, and the missile in the cup was ejected near the top of the swing and hurled through the air in the direction of the enemy. The preparation of the animal sinew was an art known to the ancient Greeks, but was lost subsequently, so that it is probable that the mediæval engine of this type was not as efficient as those of ancient times. A Greek torsion engine could throw a 50 lb. stone 500 yards, and lighter missiles even farther.

The highest development of the mediæval siege-engine, and one not known to the Greeks and Romans, was the trebuchet, or 'counterpoise' engine. This was formed of a large beam mounted close to one end in

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two upright frameworks and free to rotate about the point of suspension. A large weight, such as a bag of stones, was fixed to the end of the shorter part of the beam. The long end was drawn down to ground-level, thereby raising the bag of stones high in the air, level with the tops of the supports. The missile was placed in a cup-shaped depression at the tip of the long end of the beam or in a sling attached to it. Now releasing the long end caused the bag of stones to descend rapidly, swinging the long end round in a huge arc at high speed, and throwing out the missile with great force near the top of the swing. The biggest trebuchet weighed 10 tons, had a throwing arm 60 feet long, and could hurl 350 lb. for 300 yards. Large lead-covered stones or millstones were the favourite missiles, but the flinging of dead horses, barrels of dung, and even prisoners, is also recorded.

All these engines were designed to batter down walls so that other forms of attack would stand more chance of success. Classical examples of their use are at the sieges of Bedford by King John, of Berkhamstead by the Dauphin, of Kenilworth by Henry III., and of Stirling by Edward I. As the range and power increased, castles were built with higher and thicker walls; smaller engines of all types could also be mounted inside and directed in their turn to pound the besiegers.

There were two offensive weapons for battering down walls and doors at close range. The 'ram' was a huge baulk of timber, which, suspended in a framework by chains and pulled backwards and forwards, or supported and operated by the users themselves, dealt great blows on the wall or door, gradually shattering it. The 'terebra' or 'mouse' was a beam tipped with a square spike, which was inserted into joints in masonry and rotated, thus gradually opening up a hole.

IT was, of course, necessary to defend the actual manipulators of siege-engines from the rain of missiles which the besieged could pour on their heads. To this end, a covered framework on wheels, called a 'sow' or 'cat,' with the top strong enough to withstand baulks of wood, heavy stones, molten lead, arrows, spears, etc., launched from the battlements, was employed to cover the ram or terebra.

The besieged had recourse to mattresses, bales of wool, rope-mats, etc., let down by chains from the ramparts, to protect the walls, and attacked the enemy inside the sow with a torrent of missiles, including flaming arrows to ignite it, and lowered bowls of flaming sulphur to render it untenable.

The sow could also be made to serve as a cover to enable miners to approach near to the walls. A tunnel shored up by timber was driven beneath the rampart, and at the crucial moment the timbers were fired, thus removing the support of the wall, which collapsed into the digging. The chief defence against the mine was the countermine from inside the castle, breaking into the attacking mine and destroying the miners. A famous instance of successful mining was at Rochester by King John. Square corners were particularly vulnerable to this form of attack and were gradually eliminated from the design of castles, giving place always, eventually, to round or polygonal shapes.

The design of the castle progressed to a point where close-range attacks of these types became almost impossible. Mining could not be resorted to against a castle with water defences, for obvious reasons. The wall-towers, too, were constructed partly in advance of the wall, with loopholes commanding its base, which was again further commanded from jutting parapets called machicolations, having loopholes in the floor. Gateways carried not only wooden doors but also a succession of metal grilles or portcullises, each defensively covered from slanting loopholes and by holes in the floor of the chamber above the gate.

THERE were two methods by which attackers could attempt to surmount a castle's walls. The first of these—to advance to the wall with ladders, climb them and secure lodgment on the battlements—was costly, and could only be employed by overwhelming forces, or perhaps by stealth or treachery. Only one man could come from a ladder into the castle at a time—a great disadvantage. Defenders pushed off the ladders with forked poles and rained every type of heavy missile on to the heads of the enemy, who had to climb with their shields above their heads for protection.

The second method was far more picturesque. A wooden tower—its sides

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covered with hides to protect it from fire—was constructed on a wheeled platform at a distance from the wall. This had preferably to be higher than the wall, so that archers in the top storey could pour arrows into the castle when the onslaught took place. The tower was advanced close to the wall, and a trapdoor in the side was lowered and used as a bridge by which assailants could cross on to the top of the battlements. As defence, the tower was either set fire to by flaming arrows or destroyed in a sally, while a third way was to prepare a mine, with the usual timber supports, close to the wall at the probable point of the tower's thrust, the firing of the timber, with the tower above, being, with luck, sufficient to tumble the tower over.

In castle design a moat or ditch was a good safeguard against both ladder and wooden tower assault, for then the filling in of the moat with brushwood, stones, or even corpses was necessary before either of the forms of assault could be launched.

The defenders of the castle were well covered by the walls in the making of counter-measures against these various attacks. The attackers in the open had to use small personal defences called mantelets, which the archers in particular carried into action, resting them

on the ground and firing round or over them as required.

THE final castle design, the so-called concentric plan, which can be seen to-day at Caerphilly, Beaumaris, Conway, Caernarvon, Kidwelly, Tower of London, etc., consisted of a series of concentric rings of walls, low on the outside, higher towards the centre—high enough to keep out missiles from trebuchets. Towers were built at intervals along the walls, each a strongpoint, each in advance of the wall to cover its base. The gateways in successive walls were placed at opposite sides of the castle so that a stormer carrying one gate had then to fight his way round half the periphery between the walls to reach the next gate. The gateways themselves were ingeniously constructed with blind turnings and narrow passages between high walls swept by the fire of the defenders. Either complicated water defences or natural sites of great defensive strength were invariably chosen, and in their time none of these castles ever fell to direct assault. Starvation was the most powerful weapon against them. Against Cromwell's artillery it was a different story—the castle was not designed to withstand the weapons of a new age.

Spring Breeze

*Soft with the breeze come thoughts of things long past,
That, through closed eyes, seem real and near once more:
Full, dew-decked fields of laughing buttercups,
For youth's delight—what other purpose?—or
The gentle ripple-ripple of the stream,
Upon whose brink we'd lie and idly dream.*

*And then, I think I hear the cuckoo's note—
Or is it only fancy?—through the trees.
Ah! if the world could further, further fade
Away, perhaps the nightingale's reprise.
If only I could hear the thrush's song,
Why, then the day would seem but half as long.*

*Somewhere a clock strikes. Could it be the bell
That in the old church sounds a solemn, sweet,
And holy call to all the faithful ones,
To hurry down the bumpy-cobbled street,
Where, while the old ones pray, the sun's last beams
Sprinkle, through windows small, the young ones' dreams?*

MARJORIE BANKES.

New Industries from Seaweed

LAURENCE DOPSON

ALTHOUGH a lecturer in botany at the Bristol medical school in the 19th century, one Samuel Rootsey, had the idea of paying off the National Debt by planting the ocean with a certain type of floating seaweed 'and growing corn and other profitable plants on this new soil,' the utilisation of seaweed for commercial purposes, other than as a fertiliser, had not been seriously considered until recent years. Now seaweed is used in a variety of processes, from the manufacture of artificial astrakhan to the preparation of lemon-curd, from the making of plastics to the provision of a sugar substitute in the diet of persons suffering from diabetes. Seaweed is being fed to laying hens at Reading University, and the scientists are noting the effect not only on the hens, but also on the eggs. There is now available in the shops an extra-light-weight wool made with the aid of seaweed. Hitherto, it had not been possible to weave such a fine wool, but it has been found possible to do so using the calcium salt of the acid found in brown seaweed as a supporting fibre. When the weaving has been completed, the calcium alginate is dissolved out, leaving the woollen fabric so light that it weighs only $1\frac{1}{2}$ oz. per square yard. It is estimated that the seaweed around the coast of Scotland alone could support a chemical industry worth £15,000,000 a year.

The centre of the investigations into seaweed in this country is, appropriately enough, in a house which formerly belonged to an admiral—Admiral Milne, Inveresk Gate, Musselburgh. In this old moderate-sized mansion, overlooking the Esk and not far from the fishing-port of Musselburgh, near Edinburgh, is the headquarters of the Scottish Seaweed Research Association. This Institute of Seaweed Research is the only one of its kind in the world. The rooms of the house

have been converted into laboratories and workshops for the Institute's three scientific divisions—chemical, botanical, and engineering. The display-room used to be the billiard-room, and above the cases containing specimens of seaweed and products made from them there still hang the heads of deer shot by the late admiral. Outstations are maintained at South Pier, Oban, and at the East Pier, Kirkwall, in the Orkneys, and researches on special aspects of seaweed are going on in the Universities of Edinburgh, London, Reading, Oxford, and Glasgow.

THE seaweeds fall into four main classes. There are the brown algæ, which are the largest and commonest; the green algæ; the blue-green algæ; and the red algæ. They may be divided, according to habitat, into littoral weeds, that is, those growing between high- and low-water, which are the ones you see on the shore and tend to slip upon when prawning with a hand-net; and the sublittoral weeds, which grow from low-water to a depth of about twelve fathoms—seaweed is seldom found growing in quantity at a greater depth than this.

The seaweeds which are being used for commercial purposes are the brown and red weeds. The Institute has surveyed the littoral seaweed around 4250 miles of the coast of Scotland, and is now carrying out sublittoral surveys, using specially-equipped converted fishing-boats and specially-trained crews. Among other things, the data obtained has established that the amount of seaweed present shows mathematical relationships. Where there is no strong tide, the density of seaweed varies chiefly with the depth at which it has become established, and the greater the depth the less the amount of seaweed. Where there are strong tidal

NEW INDUSTRIES FROM SEAWEED

forces, the mathematical formula is more complicated. Here the square root of the density of the seaweed is proportional to the 'cover,' that is, the number of samples obtained with weed, expressed as a percentage of all sampling operations. It is well known to beachcombers and others that at times a great deal of sublittoral weed is cast up on the shore. The scientists have found that this is not necessarily caused by gales, nor do gales necessarily cause casting, though they may precede it. A strong swell with consequent in-shore underwater current probably accounts for a major portion of the casts. The casts consist mostly of a weed called *Laminaria Cloustoni*, which, when growing, is very firmly fixed to a rocky sea-bed.

Samples of seaweed have been taken not merely at one time only, to determine the types of seaweed found, but also monthly, to ascertain the best time for harvesting the weed. These monthly seaweed samples have been compared with samples of the sea-water in which they were growing. It was discovered, for instance, in Loch Melfort, that, by the end of July and the month of August, the nitrate content of the water, which is one of the 'foods' of seaweed, was at its lowest. This was because, with the warmth of the summer, no vertical mixing of the water containing nitrates took place, and so, while the nutrients in the surface water were consumed, they were not replaced. As the weather became cooler, the surface water cooled also, and, cooling, sank, thus stimulating constant movement of the water, with consequent replenishment of the nutrients. In addition to varying with the season, the composition of a particular seaweed changes with the depth at which the plant is found. Seaweed, like grass and other green plants, carries out photosynthesis, that is, it utilises carbon-dioxide to produce an energy-giving substance, with the liberation of oxygen. The maximum photosynthesis in seaweed occurs at a depth of four fathoms.

The constituents of brown seaweed include: alginic acid; laminarin, which is probably to the seaweed what starch is to us; mannitol, which takes the place of sugar and, as mentioned above, can be used by humans as a sugar substitute; and proteins.

Alginic acid has already proved its value in the manufacture of fibres, thickeners, protective colloids, and insulating material. And, as has earlier been noted, the calcium

salt of this acid is used in the manufacture of dainty garments of light-weight wool. For the past couple of years all supplies of these have been 'for export only,' but stocks are now coming into the home market. The salt of the acid in seaweed is also employed in brewing. Alginic salts are being turned to account, too, in pharmaceutical, medical, and surgical preparations, in Turkish-delight and in tooth-paste, in soups and in paints. Laminarin, which is an 'off-white' powder, might yet be used in foodstuffs. Mannitol is applied now as a dusting-powder for chewing-gum and in the manufacture of fancy papers, leathers, and printing or marking inks for textiles.

WHAT is the best way of harvesting seaweed? This is the question which the Engineering Division of the Institute of Seaweed Research seek to answer, for the Scottish Seaweed Research Association is concerned not only with fundamental research, but also with the practical application of the results of that research to industry.

In gathering the seaweed growing between high- and low-water, it is found best to start cutting just after high-tide and to follow the ebb-tide down the beach, the harvesters continuing the cutting until low-tide, when the weed which has been cut so far is forked into nets, each capable of holding about half-a-ton of wet weed. Working in front of the incoming tide, the men go on with the cutting and netting. A man can cut about 10 cwt. an hour—even more, under favourable circumstances; in the Lochmaddy area, where littoral weed is very thick, the cutting rate was 15 cwt. per man-hour. The nets are floated on the incoming tide and are towed in at a convenient spot. As much as 12 tons, in these half-ton nets, can be towed in a single journey over considerable distances by a small motor-boat.

The harvesting of the sublittoral weed is more difficult, and experiments are still proceeding as to the best method. The first experimental unit is already in operation under normal sea conditions. The earliest device to be tried was an underwater cutting-head fitted with rotating motor-driven knives, and modifications of this device continue to be tested. Experiments were carried out in the vicinity of Oban in the use of the grapnel method of harvesting, where the plants,

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instead of being cut, are pulled free. This proved quite successful, and has, of course, the advantage of being simple. New grapnels have now been evolved which will traverse a track on the sea-bed of six feet in breadth. Tests are being conducted to find what is the best width for the grapnel. The drawing-office at Inveresk Gate has further been designing a continuous grapnel system, like the trucks on a dredger. In connection with this, a means has been devised of causing successive links to turn over at the remote end of the chain. It is claimed that this system embodies some of the advantages of other contemplated types of conveyor-equipment without their inherent drawbacks of excessive weight, rigidity, and consequent danger to navigation. There is an experimental tank at Inveresk Gate for preliminary investigations.

The drying of seaweed clearly presents a problem, as anyone will realise who has hung up pieces of seaweed to see what the weather will be. Open-air drying has been found to be so dependent upon climatic conditions as to be of doubtful commercial value.

It would obviously be easier to harvest sublittoral weed if it floated upon the surface of the water. There are brown weeds which do this. One of them is the *Macrocystis pyrifera*, or giant kelp, which thrives in the Pacific Ocean. To see whether the giant kelp would grow successfully in British waters, spores were flown over from the Pacific, and they are now being germinated experimentally at Inveresk Gate. If it is proved that the giant kelp will grow under conditions which are found around the shores of Scotland, it will be practical to plant the seaweed in selected areas, and it will be easy to harvest. It is, perhaps, problematical what would happen if people stopped gathering it or were unable to do so, but all these matters will be carefully considered before the giant kelp is artificially introduced into our coastal waters. The giant kelp may, of course, decide things for itself by proving unwilling to live there, although it is found in like surroundings in the Pacific.

If seaweed is cut, how long does it take to grow again? This is a point which would clearly be of significance if cutting is undertaken on a large scale. The Botanical Division of the Institute is making observa-

tions on new growth of *Ascophyllum nodosum*, a littoral weed, at the Skerry of Work in Orkney. Mature plants cut in 1946 were found to produce an average new growth of 19 per cent by weight in a year, and double this percentage in the second year.

THE gathering of the weed could prove a useful local industry, particularly for the crofters of the islands of Scotland, where the brown weeds grow particularly abundantly—the Outer Hebrides, for example, have 70 per cent of the littoral brown seaweeds found in Scotland, and the Orkneys 22 per cent. It was to discover how to utilise this potential source of wealth that the Scottish Seaweed Research Association was set up, under the chairmanship of Lord (then Sir Steven) Bilsland, with a grant from the Treasury. The main financial support comes from the Government, other members of the Association being commercial firms and scientists. Members receive reports of all scientific work of the Association and may, subject to the approval of the Board of Management, apply for permission or licence to operate and utilise any invention of the scientific staff.

The work of the scientists at the Institute—and they include women as well as men—is not confined to boiling things over bunsen-burners or looking down microscopes in the mansion at Musselburgh, which retains its feeling of comfort despite its being no longer a dwelling-house, and which has large windows looking out across the fine, though now rather neglected, gardens to the distant vista of the Lothian hills. The work means rather long train-journeys north, hours spent on beaches in places like Scapa Flow, cold trips in open boats, arriving on the Outer Islands with the mails at unearthly hours of the day or night.

One feels that Admiral Milne would not mind the purpose to which his house has been put. That he took an interest in natural history is shown by the many exotic plants which he collected on his voyages and which adorn his garden. And whatever the old seaman thought of science—and seaweed—he would be proud indeed of the scientists who are working to establish Britain's new sea industry.

Poor Aunt Caroline

MARY WALKER

I NEVER understood why the grown-ups called Aunt Caroline 'poor.' They couldn't have meant that she had no money: she seemed, in fact, to have more than most of us. I didn't think they meant she was unfortunate either. Most of the Sheridans were happy — 'Because, on the whole, we do what we like,' my father said—but Aunt Caroline was surely the happiest of them all. She lived by herself in the country, in a house with yellow walls and a thatched roof, and she did what she liked all the time. She was beautiful, although she was so old, and she always wore blue dresses that were the same colour as her eyes. I thought it wiser not to mention it to the rest of the family, but I had decided to be exactly like Aunt Caroline when I was an old lady.

I remember the first time I went to stay with her in the yellow house. I had visited with my parents, of course, but I had never been there alone nor slept under the thatched roof until that summer holiday. I was invited for a week, and everyone was very astonished and secretly, I thought, rather envious. They gave me a lot of advice about how to behave.

'Try not to *surprise* poor Aunt Caroline too much, dear,' said my mother, who was constantly being surprised, and usually unpleasantly, by the family she had married into.

My father said: 'Be a good girl and don't stamp about.' He knew quite well that I never stamped about, that I disliked stampers almost as much as he did, but this was one of the stock of thought-saving phrases he kept for such occasions.

Uncle Benbow, who happened to call the evening before I left, said in his fine, rich voice: 'You must be kind to your poor Aunt Caroline, child. You must please her

with small attentions, listen politely when she speaks; you must knit her a kettle-holder and help her to prune the hollyhocks.' He paused, winked at me behind my mother's back, and added rapidly: 'Then, maybe when she dies she'll leave you all her money!'

'Benbow!' my mother said.

I could only raise a feeble smile myself. I was still feeling rather low about my kitten that had been run over. I explained this to Uncle Benbow, and he consoled me: 'There, there, child.

Thou know'st 'tis common; all that live must die,

Passing through nature to eternity.'

He spoke the words very beautifully, and it was one of the times I was particularly pleased about having him for an uncle. But I still felt low.

THE next day my mother put me into the train and waved me off on my week's holiday. It was sad to see her being left behind on the platform, and I wished I could change my mind and not go after all. But the train went on, and I settled down in my corner and concentrated on looking out of the window. Passing the rows of tall houses one could catch astonishing glimpses of their interiors.

When we got into the country, it was looking very well. The grass grew so thickly that the fields seemed to be covered in green fur; the sun glinted on the shiny yellow buttercups, and there were poppies in the corn.

Aunt Caroline was waiting for me at the station, in one of her prettiest blue dresses. She had a big straw hat tied over her curly white hair, and it made her look young and very gay. She announced: 'We're going

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to have a wonderful time, you and I,' and I was inclined to believe it.

When we set off in the neat little car, I felt so happy suddenly that I began to sing my favourite song, which was 'My Bonnie is over the ocean.' Aunt Caroline began to sing too, very loud and clear, and we flew through the lanes in the sunshine, with the breezes tearing at the big straw hat, shouting:

*Oh, blow, ye winds, over the ocean,
Oh, blow, ye winds, over the sea,
Oh, blow, ye winds, over the ocean,
And bring back my Bonnie to me.*

The yellow house looked better than ever, behind the front garden that was spilling over flowers into the road. There was a big pink shell propping the door open.

'Would you like to look at the garden before lunch?' Aunt Caroline asked, waving her arm towards the back of the house. I was very hungry, but I remembered there was a pond with water-lilies, so I said I would.

THE pond was in a corner of the garden, at the end of a grass path, under the sycamore tree. It was only a small pond, and shallow, but the water was very clear, and between the lily leaves you could see pebbles and sycamore twigs lying on the bottom. They looked fresh and secret down there, quite different from dry twigs and pebbles up above in the air.

'This is where I drown my sorrows,' Aunt Caroline said. Then, catching my startled look, she laughed softly and explained: 'Not the way Uncle Benbow drowns his sorrows; I *really* drown mine. Look.' She picked up a flat pebble from the edge of the pond, and, taking a pin from the ribbon of her straw hat, she scratched the number sixty-seven on the stone's smooth surface.

'What does it mean?' I asked her.

'It's my age; it means there's not much time left.'

I couldn't think of anything very comforting to say. I said: 'Even if you haven't time to do many more things, Aunt Caroline, you must have done an awful lot already.'

'It isn't so much doing things,' she said, 'what I want is time to remember them.'

Then she held the pebble over the centre of the pond, between her thumb and finger. 'Now I'll drown it,' she said, and the pebble fell with a sharp little splash, and

settled down among the strange pebbles under the water.

Aunt Caroline smiled at the ripples that were rocking the water-lilies. 'You see,' she said, 'it's gone away.' Perhaps it had. Certainly her eyes were blue and bright again, and she looked happier.

'Have you anything to drown?' she asked me.

I told her about my kitten. She picked a very nice-looking, grey pebble, and scratched on one side 'Kitten,' and then, because there was no more space, she turned it over and wrote 'Dead' on the other side.

'Anything else?'

I thought for a second. 'I wish I had a brother.'

This time she chose a dark-brown pebble, shaped like a bean, and wrote 'No brother' on it.

'No more?'

'No more.'

She gave me the two pebbles to hold over the pond. They felt warm from the sun, and very smooth.

'Now drown them,' she told me, and I opened my hand and let them go.

For a moment the sorrows were much worse instead of better: the grey pebble twisted as it fell, and I saw my little grey kitten with its small tail sticking up, drowning before my eyes; the brown pebble dropped straight to the bottom, and I thought it had a face—Christopher Merrymay's pointed face—with tawny eyes looking up at me. But then I saw the ripples and the way the lilies moved, and everything seemed very bright and various. I was careful not to say so to Aunt Caroline, but I was glad I had a lot of time left for doing things.

WE had lunch in the garden under a big red-and-yellow umbrella, and there was iced lemonade to drink. After lunch Aunt Caroline led the way upstairs to show me my bedroom. It was pink and white and full of sunshine, and the window looked out on to the front garden. 'This is a good room for sleeping,' she said. Then she asked me if I would like to see her room, and I followed her along a corridor and through another white door.

Aunt Caroline's room was on the shady side of the house; from her window you could see the sycamore that grew over the

POOR AUNT CAROLINE

pond and the grass path leading to it. It was a cool room, in blue and grey, but there was an odd feeling of strangeness and excitement about it. When I looked round I saw why: it was like a room in a museum, full of dozens and dozens of things to look at. There were two glass-fronted cabinets filled with tiny ivory men and animals, and boxes made of tortoiseshell and mother-of-pearl, and paper-knives with fantastic handles, and cups and fans and pieces of amber. The mantel and two sets of shelves were crowded too, with china harlequins and shepherdesses, and ginger-jars and paper-weights. There was a big blue vase in one corner, holding feathers from a peacock's tail, and on the bedside table was a lovely, intricate sailing-ship in a bottle. The walls were covered with Chinese pictures, made in silk, showing slant-eyed ladies taking tea or fanning themselves or sometimes just sitting, on a background of palest pink, under feathery trees or bushes of scarlet blossom.

'It's a very exciting room, Aunt Caroline,' I said, and perhaps she caught a suggestion of reproach in my voice, because she replied: 'Yes. You see, yours is a room for sleeping, but mine is a room for lying awake.'

I saw what she meant. I imagined her lying in bed in the shadowy corner and smiling at a picture or a vase as the moonlight fell on it, remembering the place she brought it from, and who she saw there, and what they said, and what it was like so long ago.

'Don't you sleep at all, Aunt Caroline?' I asked, awed.

'Not very much,' she answered cheerfully.

That night, in my big soft bed, I could hear her moving about quietly in her room. I guessed she was looking at things and touching them—remembering while there was yet time.

AUNT CAROLINE was quite right about my week with her; we *did* have a wonderful time. The sun shone every day, and nothing changed. The flowers went on spilling themselves into the lane, the lilies rode the ripples when we dropped a sorrow in the pond, the front-door stood open all day, with the pink shell to hold it. We drove through the narrow lanes singing songs, and we walked through the fields making chains of buttercups. Often in the evenings Aunt Caroline would let me spend an hour in her room. When it was time to go home, I expected to find it still the same day as when I left; the week had been so unlike the passing of ordinary time.

Aunt Caroline saw me off, in the same blue dress and the big straw hat. At the very last moment, just as the train was starting, she put something into my hand. It was one of the ivory animals that lived in the cabinet and reminded her of things, when everyone else was asleep: it was a polar bear. I wanted very badly to ask her what it was she remembered when she touched it—I wanted her to give me that too—but I thought it might surprise her, so I just leaned out of the window and called: 'Thank you very much.' Then I sat down and looked at the little bear in my hand. And suddenly I surprised myself by saying out loud: 'Poor Aunt Caroline!'

Give Me the Sight

*Give me the sight to see beyond
This life of every day,
To touch with spirit fingers oft
All beauty by the way,
To catch the colour of a cloud,
The cobalt mist that creeps
Across the hills at eventide
When Nature softly sleeps.
Give me the understanding ear
To listen, here and now,
To soundless music as it comes . . .
I know not why—or how.*

EDITH A. VASSIE.

Birds of the Rhodesian Veldt

ANNE C. ELDER

FOR the study of local bird-life, surely one of Nature's most fascinating fields, Rhodesia is a highly rewarding country, and it happened that we had the good fortune over a number of years there to be able to observe and to learn much of the birds around us.

Take the matter of birds and snakes, for example. In the daily lives of us who dwell in wild places, snakes are prone to come on the scene with little or no warning, and on occasion with serious consequences, yet anyone who has ears to hear can be readily made aware of the presence of a snake by the unusual behaviour of the birds in the vicinity. A snake's instinct tells it that it will be difficult to locate it in dense foliage. When on the hunt for eggs or young birds, therefore, or even when merely inclined for a peaceful sleep, it chooses a leafy tree, and, unless indicated by birds, its presence may remain unsuspected.

To follow the movements of a snake in a tree is difficult for even the experienced eye. The colour of the reptile itself is usually green or brown, or greenish-brown—an illustration of the protective colouring so often found in wild life. It likes a tree with branches approximating to the thickness of its body, and when the snake is lying along such a branch, with the head out of sight, it is very hard indeed to separate visually the sinuous motion of the body from the branch. The disappearing trick of a snake in a tree is, in fact, a danger not easily guarded against, and the help of the birds in revealing the menace in time is of importance.

IT is a memorable thing to watch the dealings of birds with a treed snake—that is, one which is in the tree in search of eggs or fledglings, but which has been discovered

betimes by the enraged parent-birds. In the face of common danger, all individual bird-enmities are forgotten, and a combined effort of amazing persistence, intelligence, and ruthlessness is often carried through. The snake will risk a good deal for a chance to rifle a nest, a fact well known to, and constantly feared by, the parents, who show astounding courage and resource in defence of their threatened young.

The birds are not alone in knowing that the snake must not be allowed to descend alive; the humans also know it, and their first warning of the creature's presence is often given by birds, which, pending the arrival of man's aid, put up a valiant running, or rather, *jabbing*, fight on their own. It is impressive to watch finches, for instance, dealing with a snake in such a predicament; not a moment's respite does the creature get from the furious onslaught on its eyes. The snake has its own tactics to counter this—a ceaseless swinging motion of the head, and care not to be caught lying along a branch. Indeed, as an example of finesse in individual warfare, a treed snake is hard to beat. The odds are, nevertheless, surprisingly often against it. Until the coming of the more powerful human enemy, the intrepid tiny feathered ones keep the snake's attention so diverted to self-defence as to prevent further predatory attempts, and a skilful shot settles the issue.

Even when a snake is safely dead, however, its vindictive little enemies will not leave it alone; finches, or to the Rhodesian, finks, especially, take a morbid delight in getting their own back on a foe no longer able to retaliate. Once a snake was killed at 2 p.m. and left hanging over a branch. Till night-fall, the finches unceasingly attacked it, coming in from all directions at once with ferocious beaks and loud triumphant squawks.

BIRDS OF THE RHODESIAN VELDT

OUR own species of finch was the masked weaver-bird. It builds over water when possible, and always at the end of a long, supple, pendent branch; and here we pause to lodge our one serious complaint against the character of this particular bird-friend. The nest is placed in this position as a protection against attacks by snakes, rats, meerkats, and other preying enemies which avoid such open situations, and, as a special precaution, the first thing the bird does is to remove every leaf within reasonable distance. Though one feels this ought perhaps to be regarded with leniency, being a question of defence of the home, the wholesale stripping of parts of one's precious trees is often hard to bear, even in such a good cause.

The nests themselves are wonderful creations of patient, meticulous labour, being finely woven of grass, the leaves of small plants, or of shredded banana-leaves when available. It is interesting to note that, when possible, these finches build near a hornet's nest, apparently regarding the hornet, with his bad-tempered buzz and terrifying appearance, as a shield and defender against preying foes. Wherever a large community of finches is found, there will their friend the hornet also be. Even his nest looks superficially like theirs, though the interior structure is entirely different.

For the eager onlooker, the building of a finch's nest is a real diversion. The work is done in the season of the worst heat, just before the rains, and is kept up at breakneck speed from dawn till dark. The day is punctuated by the prospective bride being brought on periodic visits of inspection, resulting often in excited and, from the sound of it, acrimonious discussion. Should the lady express definite dissatisfaction, which all too often she loudly and unmistakably does, the irate lover sets to work furiously to strip what has been accomplished—and with a curse for every scrap removed. It requires little imagination to translate: 'These women, confound them! A poor chap can never please them!' And she: 'Hm, if I don't get this done as I want it *before* I marry him, I never will!' The result of the many try-outs is the strewing of the ground over a wide radius with discarded debris, earning for the finch a deserved reputation for untidiness, though the finished nest is a model of precision and neatness.

OF persistent warning by a bird, our classic example, perhaps, was the incident of the snake and the bulbul, sometimes also known as the toppie or blackcap, descriptive of the tuft of black feathers on the head. The day-long crying of this bulbul had amounted to a real disturbance, one member of the family being heard to observe acidly that 'That bird must be mental!' No normal bird goes on calling incessantly after dark, so it was decided that this one must be in distress, and investigations were set afoot. The crying having been traced to a mulberry-tree, the thick branches were pulled aside, and a torch shone into the interior, to reveal a bulbul mounting guard over a snake coiled up asleep just at head level. That the tiny creature should have held out for a whole day, vociferating at the top of its voice, was a remarkable feat of endurance, and a touching proof of the anxious, selfless mother-love so often characteristic of birds. Indeed, on further search, there was the nest, well hidden—though, in the opinion of the worried little parent, not well enough for safety.

There was another complication in the already harassed existence of our bulbul. A cuckoo had chosen her nest for its insolent attentions, and the unwelcome interloper that hatched out was a perpetual headache to its poor little host and hostess (yes, father had to help!), whose efforts to fill that ever-gaping beak amounted to hard labour—this even when supplies were easily obtainable from the near-by bird-table, thus saving foragings in the wilds. We were later touched to observe that the over-worked little foster-parents had persuaded the tiresome intruder to perch on a branch close to the bird-table, as a desperate measure to save time and effort. Even so, the hungry beak was ever open, and a sympathetic observer remarked on the day of the young cuckoo's departure that she was sure she 'heard those two give a sigh of relief!'

Besides the customary impudent demand for free board and lodging, the Rhodesian cuckoo follows the evil practice of cuckoos the world over by selfishly ousting the lawful young from the nest to suit its own convenience. And, speaking of cramped quarters for cuckoos, we once saw a curious thing. Perched close together on a branch were four birds, which on closer inspection proved to be two young cuckoos, carefully guarded

on either side by bulbul foster-parents. The nest could no longer accommodate the intruders—but the devoted bulbuls were still on the job!

THE black and white butcher-bird, or shrike, was another of our familiars—an easily-tamed and friendly frequenter of the garden. Unfortunately, however, his somewhat sinister name is not undeserved, as he is guilty of quite wicked behaviour towards smaller birds. The tiny sun-birds—sometimes called honey-birds—have special reason to dread him, because he has a deplorable habit of wantonly tearing down their nests. Still worse, he convicts himself of cannibalism, for he eats their babies. Being a carnivore, and having an eye to

easily-obtainable ready supplies, he has a 'larder' that is often a gruesome sight. Usually it is a branch of a thorn-bush, on each spike of which he impales a titbit—flies, beetles, wasps, even small lizards, or frogs. Yet, apart from his regrettable cannibalism, often the cause of grief and indignation to the humans who otherwise regarded him with affection, the butcher-bird is a pleasant little fellow, with a cheerful and distinctive song of his own. And in the balance against his callousness towards other birds may be placed his loyal affection for his mate. It is comical and affecting to watch his fearless defence of her in real or supposed danger; in fact, his assiduous care for her safety and well-being often brings the reflection that he comes up to a standard not often surpassed by his human 'superiors!'

Mr Wu Watches a Play

The Unchanging Chinese Theatre

DENNIS MACDAID

CERTAINLY Mr Wu would have little inclination for watching plays during the distressful period that his unfortunate country has of late and for too long experienced. But when he does find time to take his seat in the theatre, the cultured Chinese of to-day still delights in a form of dramatic expression that has not changed much in essentials for nearly fifteen hundred years.

The Chinese theatre took practical shape during the T'ang Dynasty (A.D. 618-907). In its original form, the drama was solely spoken dialogue, but the Oriental artistic craving later added song and dance as a fuller form of expression. Indeed, dance is the real source of Chinese drama, and the conventional movements and gestures that remain

characteristic of Chinese acting had their beginnings in the dance. This is seen in the graceful and expressive hand and arm movements—rounded and flowing rather than angular and straight-lined.

THE modern Chinese theatre-building does not differ greatly in layout from its Western counterpart, but in early days tea-houses were the centres for dramatic performances. Tables and stools were placed in the area corresponding to the present-day stalls. The charge made was for the tea, not the entertainment; the latter was originally regarded as an added attraction to customers of the tea-house. That idea was altered as the drama developed, but the

MR WU WATCHES A PLAY

theatre still retained the name of 'tea-house.' Tables were reserved for parties, like boxes in a modern playhouse, and the individual spectator had to be content with a cheaper and inferior seat at the side of the stage or behind the booked tables.

The stage—square and projecting well into the auditorium like that of the Elizabethans—had at each front corner a red or black lacquered pillar which supported the overhanging roof structure. A large gilded board suspended above the stage proclaimed the name of the very desirable tea-house that offered its honourable patrons such delightful and matchless entertainment. A beautifully-embroidered curtain hung at the back of the stage, with two openings at either side for the actors' entrance and exit. Two smaller but equally beautiful curtains covered these openings.

Painted stage scenery was non-existent. Western influence towards the end of the Ch'ing Dynasty (1649-1911) brought the production of modern plays, complete with realistic scenery, but the innovation was completely shunned by Chinese theatrical conservatives. They still hold that the native drama should produce an artistic rather than a true-to-life effect; it should strive to expound the meaning of life instead of merely seeking to entertain. So, in the traditional Chinese theatre even to-day, the stage is practically bare. A table and a few chairs will be utilised for any properties the action may demand. Thus, a chair may represent a mountain or hill which an actor has to climb. The hero mounts the chair, steps down the other side, and, hey, presto!—he has crossed the mountain.

Much use is made of flags or bannerets to denote various objects. A person supposed to enter in a carriage or wagon is accompanied by a 'super' carrying two yellow flags with a black wheel painted or embroidered on each. The passenger walks between the two extended flags, and when he wishes to descend from his conveyance, the flags are dropped, and the obliging human vehicle goes on its way. Banners with designs of waves and fishes represent sea or river, and are carried in fours, being continually shaken to simulate the ripple of the water. Should some unfortunate character in the play decide to commit suicide by drowning, he jumps towards the banner-bearers, who enfold him and carry him away. The approach of a storm is heralded by four

men running across the stage, bearing aloft four black banners.

No Chinese theatre is complete without the native orchestra, which takes its place actually on the stage. The European ear generally finds it noisy and confusing. It is mainly percussive—loud-clanging gongs, brazen cymbals, rattling drums, and clicking castanets contending with the falsetto voice of a singer and the piercing sound of the Peking violin. The musicians are usually placed at the left-hand side of the stage, at a point called the 'Nine Dragon Entrance.' That title has an interesting origin; so has the historic custom which to this day is connected with it.

Twelve hundred years ago, the Emperor Ming-Huang, a lover of music, often conducted the orchestra himself in the palace theatre. His imperial symbol of Nine Dragons was carved on the rostrum, and to this symbol each actor as he entered paid homage and respect. That custom still survives. Each Chinese actor on his first appearance in the play pauses at the same spot as his predecessor did twelve centuries ago. He lets the audience of to-day appraise him by giving them a sample of his artistry, executing for their admiration some graceful arm or sleeve movement.

MODERN times have brought a few changes to the old Chinese theatres. The supporting stage-roof pillars have disappeared, but the acting area is still surrounded on three sides by the audience. The auditorium generally remains lit during the performance, and tea continues to be noisily and unceasingly distributed and consumed. Women, formerly segregated in separate boxes, are now permitted to occupy the more expensive stall-seats.

Plays mainly concerned with murders and robberies are the most favoured to-day, with about one-fourth of the output devoted to religious and mythological subjects. The native enthusiasts love 'horror,' and will delight in the beheading of some unfortunate gentleman. Their sense of illusion is undisturbed when the ill-fated victim runs quickly off as the alert property-man appears with the severed head. That gory object is represented by a round bundle wrapped in red cloth!

Chinese acting is bound by age-old con-

ventions. Many actions are symbolic, but the portrayal of emotions is so vivid, facial expression and comic byplay so wonderful, that lack of knowledge of either language or tradition is no bar to comprehension. Foot, leg, arm, and hand are all brought into play, and great emphasis is placed on movements with the sleeve.

A star Chinese actor can almost literally make the sleeve of his rich and elaborate costume speak. There are over fifty distinct sleeve movements, each conveying unmistakably its intention. A typical example is the 'repulse' movement. The actor with a circular movement of the wrist throws his sleeve abruptly towards the person that has incurred his displeasure, looks at him angrily, and then turns his head sharply in the opposite direction. The stylised posture lets the audience know in no doubtful or uncertain manner that he is offering the 'cold shoulder.'

The practice of painting the face in certain symbolic fashion and colours originated about five hundred years ago during the famous Ming Dynasty. The convention became very complicated, the main idea being that different colours denoted particular characters. Red indicated loyalty and uprightness; purple, pink, or grey, old age. Black was for simplicity and straightforwardness, and blue for obstinacy and ferocity. The crafty were yellow-visaged, and gods and fairies, understandably enough, had gold or silver countenances. A lurid green was the sinister mask of ghosts, devils, and evil spirits.

Colour, again, has great significance in the costumes worn on the Chinese stage. Paradoxically, these costume colours do not always correspond to those used on the face to denote classes and characters. Deep-yellow robes are worn by an emperor, his imperial household being clad in a lighter shade of the same colour. The honourable and respectable upper classes are garbed in red, and the virtuous and kind always wear blue. Youth and old age sport respectively white and brown. Brusque, straightforward characters wear black.

FEMALE impersonators ('tan') are highly regarded and well paid to-day. They originally wore only a piece of blue gauze as a distinguishing head-dress, but gradually more decorative touches were added. A performer of this type of part on the modern Chinese stage will spend considerable time in the hands of the 'make-up' man, while his coiffure will be an elaborate affair to set feminine hearts aflutter.

The Chinese suppression of the female sex is typically exemplified in their native theatre. In earlier times women were confined to boxes in the theatre balcony, each box being screened from its neighbour. Men only were allowed to occupy the ground floor: the different sexes were never permitted to sit together. This rule was enforced even in the old imperial theatres. The Emperor and members of the royal family sat facing the stage, with court officials and ladies-in-waiting each placed on opposite sides of the theatre.

These royal theatres of past centuries had only one auditorium floor, but the wood-work on the walls and stage-surround was elaborately carved, gilded, and lacquered. The stages were magnificent structures, and generally were built with two, and sometimes three, acting levels. These three-storeyed stages anticipated, in a manner, the constructionist-settings of the 20th-century Western theatre, enabling simultaneous action to proceed on more than one of the three levels. The top storey represented the abode of gods and celestial beings; the middle was used by the actors portraying human roles; and the basement was the realm of devils, evil spirits, or ghosts of the departed.

Wonderful old Kingdom of the Dragon, where plays were in progress a thousand years before Shakespeare tuned his immortal lyre that other English dramatists were to sound again in different keys through succeeding centuries. But China's theatre-land continues for most of us a land of mystery—not fully charted. Will it remain so until a ruthless advance sweeps aside the monuments of the past?

A Matter of Life and Death

NIALL SHERIDAN

'IF I hadn't made that king of hearts I was sunk,' the Sergeant said triumphantly. He drew the money towards him while Guard Flanagan shuffled and dealt again. The radio had gone out of order a fortnight ago, and a game of cards was the only pastime they had. Every night they played three-handed solo-whist; Heffernan was saving up to get married and could never be induced to make a fourth.

The Sergeant picked up his cards and arranged them in suits, gazing at them with every appearance of disgust. He held an excellent hand, a perfect spread *misère*.

Just then the door was pushed open, and a man with mud-stained trousers and dust-coat came forward into the room. He stood with his hand to his forehead, blinking in the sudden light.

Guard Donohue counted his cards twice with great care. 'I'll try an abundance,' he said.

'*Misère*,' the Sergeant outbid. 'I think I'll put them on their backs.' He made it sound as though he were taking a considerable risk.

The stranger took a few steps towards the table and coughed nervously. 'Which of you is the Sergeant?' he asked. 'I want to speak to him urgently. I've walked a very long distance. I want to make a statement—a sworn statement.'

'Oh, you needn't tell me,' the Sergeant said with a sigh of resignation. 'Someone is after stealing your bicycle, I suppose. When was it pinched?' He settled his cards face upwards on the table.

The stranger stared blankly at the broad expanse of the Sergeant's back, the ruddy folds of flesh above his tunic-collar. He swayed slightly on his feet. 'I'm afraid you don't understand,' he began to explain in a

low voice. 'This has nothing to do with a bicycle. No, nothing. I'll try to be as brief as I can.' The effort of speaking seemed to leave him breathless.

'Why the hell didn't you come the five of clubs when you saw me dropping the queen?' Guard Flanagan asked.

'Speak up, man,' the Sergeant called over his shoulder. 'You'll have to give me an exact description. What make of bicycle was it? I suppose you haven't the number of it?' He tapped his cards. 'I'm alright now. The diamonds are all gone.'

'Look at that now,' cried Donohue. 'What difference would the five of clubs make? Sure he had a cast-iron hand.'

The Sergeant drew slow caressing fingers along his jaw. 'That'll be two bob a skull, boys,' he reminded them pleasantly. He turned as the stranger touched him on the shoulder.

'Look here,' the man began again, 'I'm sorry to interrupt your game. But if you wouldn't mind listening for a moment, one moment. I want to tell you something.' There was an undertone of fury in his polite English accent.

'And what's hindering you?' the Sergeant asked, fixing the money in a little stack beside him. 'Now, was it an old machine, or a new one? Twenty-six or twenty-eight wheels? Was there a three-speed gear on it?'

The stranger began to bang both fists on the table, scattering the Sergeant's pile of coins. 'Will you listen?' he shouted. 'This is not about a bicycle. It's a much more serious matter.'

The Sergeant looked at Flanagan and then at Donohue. 'I see,' he observed gravely. 'It's about a motor-bicycle?'

The Englishman gave a groan and collapsed

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on the end of the wooden form, sobbing and laughing, with his hands to his face.

'I've come to confess to a murder,' he whispered. 'I killed my best friend two days ago.'

THE Sergeant's bulk stiffened as the two Guards turned towards him, their faces rigid with amazement. He rose slowly to his feet, dropping the money he had won into his trouser-pocket.

'I see,' he exclaimed in a bewildered tone. 'This is a nice how-d' ye-do, so it is. You'd better calm yourself now and take it easy. You must be perished with the cold.' He took the stranger by the arm and led him to a chair beside the fire.

'Maybe he'd like a cup of tea,' Guard Flanagan suggested, rising. 'A nice strong cup of tea.'

The Sergeant nodded, making a pouring gesture with his fist. 'You might put a drop of the creature in it,' he proposed.

The stranger jumped to his feet and stood before the fire, supporting himself against the mantelpiece. He began to speak very rapidly: 'Sergeant, I have come to give myself up to justice. I am a murderer. I killed my oldest friend. It was murder, brutal murder, and I must pay for my crime. I don't want to make any trouble. The law must take its course. I will make a full, accurate statement.' He stopped, breathless, his face pale as the distempered wall behind him.

The Sergeant came towards him and patted him on the shoulder. 'Sit down now, like a good man,' he said, 'and let Flanagan put on the kettle. You can tell us all about it.'

Guard Flanagan crushed the kettle flat on the embers.

The stranger slumped into his chair, breathing quickly, the loosened muscles of his face twitching.

'The nerves is at him,' Guard Donohue whispered knowingly. A solemn nod from the Sergeant confirmed his diagnosis.

'Are you feeling better now?' he asked.

The stranger gave a weary smile; he seemed almost calm. 'You have been very kind,' he answered. 'You make it easy for me to confess to a terrible crime.'

'I WILL begin at the beginning,' commenced the stranger. 'I am an Englishman, a

bachelor, and for many years my only friend has been a man whose wife died a long time ago. We were both more or less lonely men.'

Flanagan distributed mugs of tea and thick slices of white bread. The Englishman sipped his tea and went on speaking: 'We had no friends and not many acquaintances. He was a man of some means and lived at different hotels. Sometimes he stayed only a few days, never for longer than a fortnight. Every year we went on holidays together. This year we came to Ireland on a walking tour. I did not come direct. We arranged to meet in London. I can safely say that not a single person knew or cared where we were going. My friend's name, by the way, was Lafontaine.'

'Of French extraction, very likely,' the Sergeant mumbled through a mouthful of bread.

The stranger was silent for a moment staring into the fire. 'I can't understand it,' he resumed, softly. 'It doesn't horrify me any more. And yet I almost went crazy during these two days in the hills.' He raised his head, and continued in a brisk toneless voice. 'Lafontaine and I arrived in Killahogue on Monday night last. On Tuesday morning we set out to walk across the mountains to Castlecree. At breakfast we had an argument about the route. But I could see from the ordnance map that we'd get the best view by going over the Black Mountain, and in the end he had to agree with me.'

The Sergeant's chair creaked as he bent forward, inclining a polite and attentive ear.

'I was irritable and out of sorts that day,' the Englishman went on, 'and Lafontaine was in a most annoying mood. Sometimes he could be infuriating, with his little childish tricks, like pinching your arm or crushing your fingers together when he shook hands. They seem horrible to me now, though I tolerated them for twenty years. Well, we walked steadily for three hours, speaking very seldom, and about midday we were coming near the summit. At one place the path overhangs a mountain-lake.'

'Would that be the Devil's Pool?' Guard Flanagan asked. 'A very lonely spot.' The Sergeant gave him a warning frown.

'Yes,' the stranger replied, nodding. 'I remember the name on the map. The

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path is narrow, and I was walking in front. Lafontaine began to prod me in the back with his stick. He kept saying, "Look slippery," or "Get a move on there." Suddenly I couldn't stand it any longer, and I turned on him. I can't explain it to you, Sergeant, but I think I saw him as he really was for the first time in twenty years. And I knew that I hated him. I wanted to destroy his fat face and his piggy eyes and that sneering smile of his.' The stranger swallowed, and gave a glance at the Sergeant's intent countenance. 'He was standing just below me, and I crashed my stick down on his skull. He fell forward on his face. Then he began to stagger to his feet. I remember how the look of surprise on his face almost made me want to laugh. I swung the stick again, but before I could strike him he toppled backwards over the edge and fell into the lake. I heard the splash, but when I looked over there was no trace of him.' He stopped speaking, and an awed silence brooded around them.

Still in a tense, listening attitude, the Sergeant leaned closer. 'I suppose you didn't tell anyone else about it?' he asked.

The stranger wiped a dew of perspiration from his forehead. 'No,' he answered. 'I stayed on the mountain all that night. In the morning I went back to the lake, but there was still no trace of him. You're the first person I've spoken to since it happened.'

Satisfied, the Sergeant sat back in his chair. 'I see,' he said, letting the words float out on a long sigh. He finished his neglected tea at a gulp and put the mug on the mantelpiece.

'That's the whole story,' the Englishman ended. 'And it's a great relief to have told someone at last. Somehow I haven't that awful sense of guilt any more. And now, Sergeant, let's get the formalities over. They won't take up much time. It's a clear and simple case of murder.'

THE Sergeant, composing startled features into a solemn mask, gave the Englishman a quick look of suspicion.

'Murder,' he pronounced severely, 'is no simple matter. It might look as simple as A, B, C, but it's a tricky, doubtful sort of business any day of the week. Let me tell you this. If murder was a simple business, I wouldn't be sitting on this chair talking to you at the present time.'

The Englishman raised polite, bewildered eyebrows. 'I'm afraid I don't quite follow you.'

'Yes,' the Sergeant continued slowly. 'If murder was as simple as it looked, myself and the boys wouldn't be stuck here in this godforsaken wilderness, on the edge of a quaking bog.' He tilted his head on one side and stared keenly at the stranger. 'Tell me, now, did you ever happen to visit the County Meath in your travels?'

'I'm afraid not,' the Englishman replied, surprised. 'You see, it's my first time in this country.'

The Sergeant hitched his thumbs into his belt and shook his head slowly from side to side. 'Ah, God help us,' he cried. 'The finest bloody county in the length and breadth of Ireland. A quiet, decent class of people, without any devilment or criminality in them. But great men for the greyhounds and horses, great men. I had a lovely little fawn bitch myself, the fastest thing that ever left a pair of slips.' He paused, beset by wordless memories. 'Ballywillan Princess. Glory be to God, but it was a grand life back in Ballywillan.'

'It was the real Alley Daly,' declared Guard Donohue with fervour.

'Ah, God help us,' the Sergeant cried again. He roused himself and turned towards the stranger. 'There we were, snug and secure, with everything going lovely. I had my stripes only a few months at the time. Oh, we little knew what was in store for us that Tuesday evening when Long John Brady walked into the day-room. I remember I was sitting at the table, filling in a form to enter the Princess for the Irish Cup. "Sergeant," says Long John, "will you come out to Nicky Reilly's place? His missus is stretched on the kitchen floor." Sure enough, when myself and Flanagan arrived, she was lying there as cold as a dog's nose.'

'There was a contusion on the right temple,' Guard Flanagan put in.

'I made up my mind at once,' went on the Sergeant, 'that Nicky was our man. A villainous-looking specimen, so he was. You'd nearly hang him on the view. Besides, he'd get the three hundred pounds she had on deposit in her own name. Well, I needn't tell you he had an alibi. According to himself, he was at a pig-fair in Mullingar when it happened. But we kept him under observa-

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tion. We didn't let him out of our sight for the next month.'

'Every time he left the house,' Guard Donohue elaborated, 'we'd write a report the length of your arm.'

The Sergeant raised a restraining hand. 'In the heel of the hunt,' he stated, 'we had enough evidence to hang him half-a-dozen times. So we got the warrant, and myself and Donohue took him to the barracks. I administered the caution, but Nicky was advised to make no statement. The case for the defence, d'ye see, was that she fell and struck her head against the table. Well, the trial came off in the Criminal Court, and I got into the box to give a complete account of Nicky's movements. When I was about halfway through it, his lawyer jumps up and says, very sarcastic: "I submit, my Lord, that this evidence is completely irrelevant and immaterial." These lawyers have the impudence of the devil. So, whatever trickery went on, Nicky was acquitted. Then there was talk of an action for unlawful arrest.' He drew a long, saddened breath. 'That was the ruination of us. We got the bad news shortly afterwards.'

'It seems Headquarters took a very serious view of the business,' Guard Donohue said, gloomily.

Nodding in mute sympathy, the stranger looked at each of them and commented: 'It was certainly a bit of bad luck for all of you.'

'Oh, but that wasn't the worst,' the Sergeant proceeded, fumbling in his breast pocket. 'That wasn't all. The cursed investigation took up so much of my time that I didn't give the Princess enough exercise. I didn't get her altogether to my liking. With a little more training she'd have won the Irish Cup. Barely beaten in the final, and she running two pounds heavy.' He inclined himself towards the stranger, holding a photograph between finger and thumb. 'There we are, myself and the Princess, taken on the day of the final. The winner was sold for fifteen hundred pounds.'

'Very unfortunate, indeed,' the Englishman agreed, his puzzled gaze resting on the photograph.

The Sergeant sighed, and put it back again in his pocket. 'You took the word right out of my mouth,' he remarked. 'An unfortunate bloody business from beginning to end.'

THERE was a short silence. The stranger rose from his chair and stood facing the others in a formal attitude. 'Gentlemen,' he said, 'before you deal with me officially I would like to say something personal. I know I've brought you a distasteful task. But I must tell you that I have never seen an unpleasant duty done with such courtesy and consideration. I shall help you as much as possible. I am ready to give you my statement.'

Guard Flanagan gave an uneasy glance towards the day-book.

The Sergeant got to his feet nimbly, making a quick gesture of discouragement. With his hands in his trouser-pockets, he paced across the room and stood before the disused radio. 'You tell me that nobody knew you were on holidays with him?' he observed without looking around.

'Absolutely nobody,' the stranger answered.

The Sergeant bent down and examined the radio with interest. 'Did you mean to kill him when you left Killahogue that morning?' he asked.

'Good heavens, no,' the Englishman exclaimed. 'It was a very sudden impulse.'

'I see,' the Sergeant said, straightening himself. 'There was no premeditation.' He came to the centre of the room. 'Tell me now. Did he do anything to provoke you? These foreigners can be very hasty. He attacked you with a stick, of course.'

'Well, it was scarcely an attack,' the stranger amended. 'He was jabbing me in the back.'

'It would constitute a technical assault,' the Sergeant pronounced in a firm tone. He took a few paces across the room, puckering his brows in keen thought. As he turned on his heel, he looked full at the stranger. 'Would there happen to be any bushes along the edge of the path?'

The Englishman, watching him with meek, hopeful eyes, nodded. 'Yes. There is a row of stunted bushes right along the edge.'

'A damn dangerous thing,' the Sergeant declared. 'If a man didn't know his way he might meet with a serious accident.' He stared for a moment at the floor, levering himself up and down on his heels. Suddenly his face brightened. He came towards the stranger, and took him by the arm. Leading him to the middle of the room, he stood back and gazed at him almost with admiration. 'I'll give you my candid opinion,' he

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announced. 'You're a very fortunate man to be alive at all. I wouldn't trust these foreigners as far as I'd throw them.'

Together they moved towards the door. In silent ceremony Flanagan and Donohue rose from their seats. They remained standing while the stranger allowed himself to be

guided from the room. On the doorstep he turned, still without speaking, and stretched out his hand. The Sergeant gave him a firm, ample grip. 'Good-bye, now,' he said, 'and take it from me, you're a damn lucky man to be alive. These Frenchies would put a knife in you as quick as you'd wink.'

School for Rural Craftsmen

The Work of the Rural Industries Bureau

TREVOR HOLLOWAY

FOR many centuries the rural craftsman's services were as important to a village community as those of the parson or physician. Work was constant, materials were plentiful, and the craftsman put quality before quantity. Then came the machine age. Things, formerly fashioned by hand, were being produced cheaper and speedier. Young men drifted to the towns to tend machines, and one by one the industries of the countryside wilted, or lapsed entirely.

Now, the pendulum is swinging back, and there is a growing appreciation and demand for the ministrations of country craftsmen. With the vital urgency of greatly expanding agricultural production has come increased demands from farmers for the services of such craftsmen as wheelwrights, blacksmiths, harness- and saddle-makers, thatchers, hurdle-makers, and so on. The work is back in the countryside—but not the craftsmen. Many rural areas have no smith to shoe their horses or to repair their farm machinery; saddlers and rick-cloth makers are few and far between, and those who have survived are for the most part elderly men in 'one-man' businesses, with no apprentices ready to take up their tools when the master-man lays them down. For long now, recruits to rural industries have been a mere trickle—in some cases, nil.

THE Rural Industries Bureau was founded as the result of an enquiry conducted on behalf of the Development Commissioners, for the purpose of assisting rural industries by giving information and advice on matters connected with them. The organisation is not a government department, but a highly efficient agency entrusted with the task of trying to restore country crafts to their former state of prosperity. It works in close harmony with the National Council of Social Service and those voluntary county organisations having as their aim the betterment of country life.

Here are some of the ways in which the Bureau gets to work. A training-centre has been established on Wimbledon Common, specially equipped for giving instruction to ex-servicemen and others eligible for vocational training grants who desire to become rural blacksmiths or saddlers. Nowadays, the village smith is expected not only to shoe horses and perform the usual forge work, but also to be a repairer of tractors, combine-harvesters, potato-lifters, and various types of farm power-units. The intensive thirty-week course at Wimbledon therefore includes systematic practical instruction in general forge work, oxyacetylene welding, arc welding, bench fitting and use

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of machine-tools, repairs to agricultural machinery and implements, and the servicing and repair of tractor and stationary engines.

The saddlery and harness-making course is given in two stages. The first period of twenty-six weeks under a fully-qualified instructor is held at the centre, which is equipped with excellent workshops, where trainees learn the trade under first-class conditions. The syllabus is designed to provide intensive basic training in making and repairing harness, rick-sheets, binder canvasses, and so on. A great deal of sound advice is also given on the business side—pricing, costing, taxes, and the rest. The second part of the course takes place in approved saddlers' shops under the supervision of master craftsmen. A large percentage of disabled ex-servicemen have found in saddlery a trade well within their limitations. Master saddlers are fast dying out, or retiring, so these new recruits should be assured of a good livelihood, and some will doubtless take over the shop to which the Bureau has assigned them.

During their time of training the men receive the appropriate allowances under the Government Vocational Training Scheme.

ONE of the greatest handicaps facing the rural craftsman is usually the lack of means to improve or equip his workshop. To overcome this obstacle the Rural Industries Equipment Loan Fund was created in 1940. In order to safeguard the interests of the craftsman, one of the conditions of the scheme is that any machine supplied must first be approved by Bureau experts. A R.I.B. Technical Officer visits the craftsman in his workshop and advises on the most efficient tool or machine to instal. In due course, the appliance is delivered direct to the man's workshop, the immediate cost being met from the Loan Fund, to be repaid by the craftsman, free of interest, by an initial percentage deposit and the balance spread over a period of up to two years.

In 1947 the Rural Craftsmen's Workshop Loan Fund was inaugurated to assist in the building or improving of a man's premises. Both Funds have proved a boon to the rural craftsman. This may be seen from the fact that since its institution the Equipment Loan Fund department received no less than 5000

applications, and equipment with a total value of well over £150,000 has been supplied.

MUCH good work has been done to assist small potteries and brickyards throughout the country. Under the Closure Order a great many small brickyards were closed during the war, but with the assistance of the Clay Industries staff of the Bureau a number of yards whose clay-beds were suitable were able to keep open by turning over to the making of agricultural drain-pipes. New and up-to-date kilns were designed by the Bureau staff for these yards, which resulted in a large saving of coal when firing them.

Small potteries were permitted, under licence, to operate during the war, provided they concentrated on the production of simple cooking or horticulture ware. Such potteries found a great ally in the Bureau in the solving of problems of firing and glazing.

First-class thatchers are rare indeed these days, but the Bureau's Thatching Officer has been doing a magnificent work, and already a number of young men have been recruited and given instruction of the highest order under selected individual master-thatchers. All the thatchers in those counties where thatch is widely used have been contacted, and a survey of their craftsmanship recorded. Craftsmen in nine counties have been enrolled into County Branches of the Master Thatchers' Association and many demonstrations of really excellent thatching undertaken. If, therefore, you need the services of a reliable craftsman, the Bureau can tell you where he is to be found. In all its spheres of activity, sub-standard work is regarded as something in the nature of a crime, for only by high-grade work can the country craftsman regain or maintain his proud record.

In 1942, the Bureau conducted a survey of agricultural craftsmen whose work was likely to be directly concerned with the food production campaign. The survey revealed that in the rural areas of England and Wales there were at the time over 25,000 craftsmen of various kinds. Here are a few of the rural crafts encountered up and down the country. The list is both interesting and surprising. Under the classification of the 'Woodland Product Group' were listed makers of cleft hurdles, ladders, tent-pegs, tool handles,

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bowl and chair-leg turners, and charcoal-burners. In the 'Coppice and Underwoods Group' were logged makers of wattle hurdles, oak-spale baskets, and besoms. Other Groups referred to ropewalks, straw and reed thatchers, trug-makers, makers of jet ornaments, and several peasant crafts, such, for example, as sea-grass products, walking-sticks, and slate ornaments, all of which are cottage industries.

A STAFF of over twenty highly-qualified instructors and numerous technical and advisory executives is maintained by the Bureau, covering such industries as clay, engineering, Welsh textiles, woodwork, pottery, wrought-iron work, and so on. Craftsmen in wrought-iron work are rare indeed. The Bureau estimates that, generally speaking, only one or two really good wrought-iron smiths are to be found in each county. The Bureau's instructor, Mr A. Zanni, is a man of outstanding skill, and has had the honour of designing work for the Princess Royal. He has made contact with the country's finest craftsmen, assisting them whenever possible and carefully coaching others whose work shows promise of reaching the Bureau's high standard. A variety of designs is available at the Bureau, and craftsmen are assisted with designs for their own clients, provided the request is a reasonable one.

During recent years there has been a flood of what are termed wrought-iron gates. These are usually spurious examples of this fine old craft. The ironwork has been bent when cold and welded together with the minimum use of an oxyacetylene welding plant.

A good instance of the way in which the Bureau can give direct aid to a rural industry was well illustrated a few years ago. Inspectors, sent to review conditions in the distressed mining villages of Wales, discovered women making quilts of most beautiful design—patterns which had been handed down for over three centuries. A grant of £300 was obtained from the Pilgrim Trust, and classes were organised for training the younger women. An additional grant enabled the Bureau to finance the production of quilts on a commercial basis, and during the time of greatest depression in the coalfields many families were supported almost entirely by this work. In the war years this little

industry was working to capacity, producing articles of clothing instead of quilts.

THE Bureau is not content to conduct its campaign merely from its Wimbledon headquarters. Its experts travel to the remotest of country districts, instructing and advising how the rural craftsman can improve his lot. For instance, during recent years a five-ton van, fitted with the most up-to-date machines, has toured some of the counties visiting the village blacksmiths in their shops. Numerous craftsmen have placed orders for equipment after having had the opportunity of trying the machines in the van.

A similar service has been operated for the benefit of craftsmen in wood. A demonstration van has called on wheelwrights and other wood-workers, and these men have been able to see the latest types of machines actually in use. This service has been supplemented by an instructor visiting selected workshops to show the working of small machine-tools.

The installation of a new machine or other equipment often necessitates the replanning of a craftsman's workshop. If desired, a Bureau expert will produce a plan which will utilise restricted space to the best advantage. He is also available to recommend to the Board of Trade that licences to produce should be issued to individual cabinet-makers whose work is of a sufficiently high standard to warrant their continuing in production.

In the course of an address to the Sussex Rural Community Council, Mr Cosmo Clark, Director of the Rural Industries Bureau, observed: 'There is a need for fine craftsmanship as never before. There is a need for people to appreciate once again the beauty of things well made. And there is a need, above all, for an understanding that the welfare of men and women does not alone depend upon the amount of money which their pay-pocket will contain at the end of the week. . . . It is in the interests of everyone that there should be a wider appreciation of what is well-made and a universal rejection of what is shoddy.'

As conditions improve, the Bureau expects to offer help to other rural crafts, at present neglected, in the hope that the village craftsman, with his skill and pride of mediaeval times, shall not disappear from the English countryside.

This Weed Called Garlic

VIN ARLINGTON

AN octogenarian recently wrote to a newspaper that he and his sixteen-year-old dog still enjoyed splendid health—because, he said, they had always eaten plenty of garlic.

Garlic is nothing but an abominable reek to most English people. In the part of the country where I was born, it was cursed as a pestilential weed and ruthlessly destroyed. It tainted the milk of cows, the flesh of rabbits and game that ate it, and so lost farmers good silver. But for three incidents that aroused my curiosity I might never have learned that garlic is the most famous of all medicinal plants.

One day when I was fourteen, I had a sore throat. I denied it because my father was driving to the gipsy camp in the wood-clearing, and I was crazy to go and see the gipsy chief. Called in when the vet could do no more, the gipsy had nailed sacks over the stable door and windows so that no one could see what he did, and cured my father's horse of a suppurating hindleg that hung as thick as a tree.

Grizzled, swarthy, with black eyes, the chief stood talking to my father, occasionally darting glittering glances at me. Suddenly, he called something unintelligible, and a woman wearing heavy gold earrings appeared at a caravan door and handed him something.

'They're wuth their weight in gold, m' dear.' The Romany put four garlic cloves in my hand. 'Chew one and your sore throat will go. Eat garlic all your life and you'll never have a doctor's bill.'

Going home, my father warned me not to believe everything gipsies said, flung the cloves away, and ordered me to bed with brimstone and treacle.

A year later Big Tom, who clanged a bell when he came round with fish every Friday, was taken ill. His big body swelled, and his

wife had difficulty in cutting his nightshirt off. Pails put by his bed caught the water that oozed out of his body. The doctor could do nothing, and it was the talk of the countryside that Big Tom would die.

But a toothless crone who scared children—and some grown-ups, too—lived with her rags and many lean cats in a riverside shack. Hobbling to Big Tom's house, she held out her filthy claw for a piece of silver, which Big Tom's weeping wife was too scared to refuse. 'Now do as I say,' mumbled the crone, 'and your man won't die. Give him garlic 'athin and 'athout (within and without), 'zackly as I tell ye.' In desperation the wife obeyed, and Big Tom is still selling fish to-day.

'Ah!' people said, 'garlic didn't cure him. It was the black magic that gipsies and old crones use.'

But there was no black magic about the little Welsh singing-master who came to the town. He wouldn't take me as a pupil unless I would eat a little garlic every day. 'Listen, madam!' he said to my protesting mother, and he sang 'D-o-h-h-h' with such power that the glass on the mantelpiece rang. 'That's what garlic does for the voice, madam. As sound as a bell it will make your daughter, and her chest so clean and sweet, too.'

Being sweet seventeen, I was thankful my mother refused to see how garlic would help me to sing. But the little Welshman was right, for, as Culpeper says, 'It wonderfully opens the lungs.'

THE truth is that garlic possesses amazing virtues, which have been known and used down the ages. The Israelites made Moses wrathful because they wanted to go back to Egypt and slavery under Pharaoh

THIS WEED CALLED GARLIC

in order to have again, among other things, garlic.

Garlic was included in the rations of the Egyptians who built the Pyramids, and was given to Roman and Greek soldiers, for garlic both stimulates and energises. Pliny I., Roman admiral and naturalist, insisted that garlic was good for a number of complaints, and St David, born c. 500, and famous throughout Wales for the miracles of healing he did, worked with little else but the juice of wild garlic and honey. It is said that the marvellous healing powers contained in garlic were revealed to St David after a time of prayer and fasting in the mountains. Thereafter, he kept bees and grew garlic in his monastery garden and used them to cure all kinds of illness.

Garlic contains remarkable antiseptic properties, and the late Dr W. Minchin declared it to be the best of all intestinal antiseptics. It was employed as a protection against plague and fevers. 'During the prevalence of a very contagious fever,' says the British Medical Herbal, 'the French ecclesiastics, who constantly used the garlic plant in all their culinary preparations, visited hovels, the most filthy and infectious, with impunity, whilst the English ministers of the same religion were generally infected with the contagion, to which several of them fell victims.'

Culpeper, best known of all herbalists, roundly asserts that garlic is a remedy 'for all diseases and hurts. . . . It provokes urine . . . helps the biting of mad dogs and other venomous creatures; kills worms in children, cuts and voids tough phlegm, purges the head, eases pain in the ears . . . ripens and breaks imposthumes. . . . It is very useful in dropsies, especially in that which is called anasarca.' I was vastly interested to find that anasarca is 'a condition of general dropsy.' Big Tom had general dropsy of the body, and garlic taken according to the crone's orders cured him. Wind colic, cramp, colds, the complexion—Culpeper says garlic is good for them all. Is it possible?

Well, Hippocrates, father of medicine, believed that to retain proper health a certain ratio had to be maintained in the four humours of the body, which are gall, bile, mucus, and blood. Sickness occurs when the ratio is upset. The ancients held that garlic restored and preserved the proper balance of the body and so removed all manner of sickness.

UNTIL the 19th century garlic was freely prescribed as a remedy for numerous ills. Garlic conserve sold in the shops was frequently bought for medicinal purposes. Then pleasanter remedies appeared on the market, and because of garlic's offensive, inescapable smell it was gladly forsaken. Unfortunately its wonderful healing properties were largely forgotten, except by Romanies, North American Indians, herbalists, and a few people who steadfastly believed nature cures to be the only cures.

But in recent years the properties have been rediscovered. Scientists have carried out intensive research work on garlic and rigorously tested its therapeutic qualities. Apart from the virtues found in the juice and oil of garlic, Professor Tonkin has found bacteria-killing factors which effectively destroy the bacilli associated with Asiatic cholera, sprue, diphtheria, and other diseases.

No premature claims are made, but it is known that garlic is a safe remedy and contains no toxic factors. It has cleared up the mucous condition in many cases (often long-standing cases) of catarrh and chest disturbances. It is undoubtedly an excellent remedy for all internal parasites, and, thanks to scientists, it can be taken in a form which is absolutely tasteless and odourless.

Wild animals always seek out garlic and devour it greedily for the benefits which they derive from it. To-day garlic is being used in the treatment of domestic animals, particularly dogs. Many breeders declare that the garlic treatment for dogs has been the greatest discovery in the canine world. It is excellent for the prevention and cure of worms and distemper. Since using it, many delighted and astonished breeders have reported their kennels to be distemper-free. Dogs treated with garlic can safely be taken to dog-shows without fear of the risk of infection.

The treatment begins before birth by giving garlic to the in-whelp bitch, then through the milk of the nursing dam until the puppies are able to take it themselves. That's the ideal way, but the start may be made at any time in the dog's life. Experimenting with my own dogs, I have found garlic to be an excellent conditioner, and it quickly puts a dog into the best of spirits.

I myself have taken garlic for many years now. I use it confidently whenever I have a sore throat, influenza, colds or coughs, etc. Most of all I take garlic for the energy it

gives me, and for the marvellous feeling of physical and mental well-being. Culpeper never spoke more truly (at least in my case) than when he said of garlic: 'It performs almost miracles in the phlegmatic habits of

the body.' I and my dogs cannot claim to be anything like as old as the octogenarian who wrote to the paper and his sixteen-year-old dog, but like them we enjoy splendid health—and we both take plenty of garlic.

Winning Ways

H. CORRAD

TAYLOR was tall, well-built, and good-looking, with fair wavy hair. At thirty years of age, he was rather old for a fourth engineer, but, as he explained, service in the army during the war accounted for that. I felt rather sorry for him, because, after all, from a captain in the army, even if only for hostilities, to fourth engineer of a four-handed job is a bit of a come-down, socially. Still, one could admire the way he was determined to overcome adverse circumstances and get his certificates of competency at that late age. He was quite frank. He had no intention of sticking at sea. He had a big job already lined up for him in the Midlands, for which he had all the electrical qualifications, but it was necessary that he showed some proof of steam ability.

We were just completing a refit when he joined us, so you can imagine we were busy making good the ravages of the shipyard workers. Nothing serious, of course. Such things as nuts working loose because they were not properly hardened; a stoppage in a line caused by a piece of cotton-waste left in a pipe before jointing; and all the things you don't find until you start working the machinery again. I was new to the ship myself, but being the third, and having had two weeks aboard the vessel before Taylor's coming, he was told to work with me.

I didn't think he was any great shakes as an engineer. He was willing—more than

willing—but there were little things he didn't do, which should have been automatic. I didn't have time to bother about that, because, for one thing, we were in my home port and I wanted to get ashore as much as possible, which meant that I didn't loaf during the day. That was when Taylor was so decent. He said he wasn't very interested in going ashore, and I could go every night. You can be sure I didn't argue.

He was a very knowledgeable man, with an attractive personality, and at meal-times he held the attention of everybody at table, with his quiet, pleasantly-modulated voice, recounting his experiences of the war. There was no la-di-da about him, either in his speech or mannerisms, and he was never at a loss for a topic of general interest. He was definitely considered to be a social asset. I remember when the third mate had his fiancée aboard, the way Taylor drew her out of herself, and, before she was aware of it, she was talking as if she'd known him all her life. How she liked working in London, what the nature of her job was, even how you got to the office by bus. Previously, she had been a shrinking violet.

I MENTIONED that Taylor was well-informed. We had a gramophone, and, with it, stacks of records which had accumulated during the ship's long service abroad.

They were mainly old dance-numbers no longer popular, many being sorely misused, and some of them cracked. Taylor spoke about them being a lot of junk, but, despite that, quite valuable really. 'You see,' he explained, 'the modern record is only a vulcanite covering to a compressed paper base, whilst these are solid plastic.' He broke one of the cracked records to show us. 'If you took these to any gramophone shop, the bloke would give you a discount for them. He'd probably want six old records for one new one, but then—you know what these dealer fellows are. I'll take half-a-dozen of these cracked ones and scout around to-morrow.'

Well—he came back with a brand-new record, which only shows how ignorant seafarers are about matters outside their profession. It was arranged he should take the remainder, about one hundred and sixty in all.

WE weren't left in port very long. Our sailing was arranged for Saturday at 6.30 a.m., and on Friday evening I went ashore to make my farewells. The second engineer, not being a local, was willing to keep the night aboard and thus let Taylor go ashore to collect his washing. We left the ship together, he carrying the suitcase with the records. I helped to carry that case, and I'd never realised previously how much a hundred and sixty records could weigh. He must have packed them well, for there was no shake or rattle. He remarked that the case would be useful to hold his washing on the return trip, and was pleased the third mate had lent it to him.

From the pontoon, on which the launch landed us, to the nearest bus-stop was a fair distance, but despite the heaviness of the case, which we took alternately, it didn't seem inordinately long. Taylor was good company, although what he talked about I hardly remember. Just before I caught my bus, he said: 'What time are you going back aboard?'

Well—I never did favour early rising, and told him I'd decided to return by the 10.30 p.m. boat that night, it being the last one.

'There is no need for that,' he replied. 'My pal is the engineer of the *Nymph*, Lord Deemys's yacht, and I've arranged with him to collect me at 11 p.m. If you're

on the pontoon at 11.15 we'll pick you up.'

It's nice to know a man so thoughtful.

I made the most of that extra time at home, and was on the pontoon at least ten minutes early for our rendezvous, but although the air was crisp, the stars shone brightly and a short wait was not unpleasant. At 11.30 p.m. I mentally recounted our conversation and satisfied myself that I was not in error in the time appointed. Probably Taylor's pal was having a little difficulty in starting the boat's engine. Marine motors are very temperamental. So was I, at half-past twelve. It was an hour later still when I arrived aboard, after having paid ten shillings to a long-shoreman owner of a rowing-boat. Taylor was not aboard, so I had to bottle my wrath.

AT sailing-time next morning Taylor was still adrift. We slipped the buoys and proceeded down stream until we reached an open anchorage, where the pick was dropped, and we swung for compasses. That's a check-up operation to determine the deviation or error of the instrument. The Old Man had been informed, of course, of the fourth's absence, and he made a signal ashore that he would wait a couple of hours if necessary, in order that the latecomer could be sent out to the ship. Other than thinking out the words with which he'd greet Taylor, the Captain wasn't very perturbed, until he remembered that he'd made Taylor an advance of money against wages yet to be earned. That stimulated him. He came himself to the fourth's cabin, opening the drawers and wardrobe for evidence of intention, and found—well, not nothing—just an old boiler-suit. There was no point in further delay. Taylor wasn't coming back. The anchor was weighed, and we proceeded.

It was a pleasant passage, which I found quite amusing, despite the fact that I and the second were keeping six-hour watches. The Chief was as crabby as he could possibly be, and all because when he offered to do the meal reliefs his offer was accepted. Taylor was discussed quite a lot, and if there is anything in telepathy, he was having a roasting time. The second had asked him, on the last night in port, to bring back a quarter of a pound of special tobacco, and, what is more, had given him the money for it. The second mate had lent Taylor a raincoat one day, but the latter in his haste had forgotten

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to return it, whilst the third mate, of course, had lost his suitcase. I thought myself very fortunate; I'd only lost my temper. Judging by the threats of my shipmates, the fate that was in store for Taylor if anybody met him was horrible to contemplate. Over and over again one heard it. We could only put on one other record anyway; Taylor had the rest.

THE first stop was Gibraltar. The Rock looked magnificent in the brilliant sunshine. Taylor as a topic of conversation had been exhausted, and the thought of stepping on land encouraged other interests. Sparks went ashore with the Old Man, and brought back the mail, in which there were a few private letters, the third mate being a lucky recipient. He and his girl friend were very much in love, and he was thrilled to the marrow at the sight of her handwriting. He couldn't even wait to go to his cabin to read it, but, with us all standing around, tore the envelope open then and there. Nobody paid much attention, of course, until suddenly, 'The lousy—pig!' burst from his lips. He was red in the face; he spluttered and swore; and he appeared to be on the verge of apoplexy. It was quite a while before he became coherent. Then, 'Just listen to this, chaps.' He started to read from his letter.

"I was sorry to hear the bad news, darling, but it was thoughtful of you to let me know so soon. I was very surprised when the head clerk told me a gentleman wanted to see me, and still more so when I found Mr Taylor outside. He said how upset you were at being ordered to change ships at Gibraltar, and then go on to China. Why couldn't they have relieved you when you were home, and

given you a few days' leave? We could have —." He stopped. 'I'll miss the next bit,' he said. 'It goes on.'

"I felt dreadfully sorry for Mr Taylor. I think it's even worse for him than it is for us, for he is married. To be sent away so hurriedly without even a chance to go home is dreadful. Poor Mrs Taylor! Mr Taylor had wired her to meet him in London, and asked me if I could lend him ten shillings until she arrived. He hadn't been on your ship long enough to earn any money, had he, darling? I lent him a pound. When his wife arrives he'll post it to me at the office, so I'll get it on Monday." The third mate ended reading. From then on his remarks were extempore. We faded, discreetly.

I BATHED and began to dress, preparatory to going ashore about four o'clock. I was chuckling inwardly at the effrontery of one, Taylor, ex-captain, and at the gullibility of people, as I pulled open a drawer to get out clean linen. It really was amusing.

Hello! Where's that blue-striped shirt? I thought I put *all* my shore-going gear in this drawer. Yes! This is working-gear in this one. Back to the first drawer I went, and hastily scrambled through its contents. A horrible suspicion had taken root in my brain, and I made a careful mental inventory. Three shirts, two suits of underwear, two pairs of socks, and some handkerchiefs—all missing. I knew immediately why the records didn't rattle—and I'd helped to carry them, myself!

Faintly, from the saloon, I could hear the strains of music and someone singing. Our only record was being played. Taylor had a nice taste in music. The words came plainly to my ears. 'Good-bye, for ever.'

Daffodils

*The moon leaves daffodils alight—
With what a clear, enchanted flame
Upon the chilly dusk of Spring
They burn the beauty of their name!*

*Though locked in dream the boughs may be,
And cold the once-warm lips of grass,
These gentle virgins trim their lamps
And watch with me night's slow hours pass.*

*Winds will toss morning through the sky,
And grass and boughs will make amends
For looks unkind, a hundred flowers
The darkness hid will be my friends.*

*But O you steadfast, shining ones,
New-washed in light as shells in sea—
All day I shall remember you
Who in the dark kept faith with me.*

MARJORIE STANNARD.

Granidola at Calvi

Corsican Easter Celebrations

G. M. ARTHURSON

MY hitch-hike in Corsica, in search of the sun, coincided with the Easter season. For a whole fortnight preceding Easter all the statues in church or home were wrapped in dull-blue shrouds in mourning for the festival; not, as one old woman told me, to keep the dust off—nobody notices dust in Corsica.

On Palm Sunday the church bells woke one up early in the morning and tolled off and on all day. After morning mass all the congregations, each person bearing an olive branch, went round the parishes, beginning at the local burial-grounds. One hesitates to say cemeteries in connection with Corsica: with no restrictions on places of burial, one comes across little isolated burial-chapels throughout the country, situated according to the whim or wishes of the families.

Between Palm and Easter Sunday special services were held every day, a surprising feature of which was the number of evening sermons for men only. I thought of our flagging attendance; I remembered, too, that twenty years earlier a Norman farmer had remarked to me: 'Of course the priests are quite glad if the men come to confess once a year at Easter.'

ON Easter Friday I reached Calvi, the old seaport, and a place of some importance in Corsica. All day in the dark old church of St John, up at the fortress, the figure of Christ lay on a bier surrounded by burning candles and sheaves of flowers. Above him stood Mary, robed in black for the season, a white handkerchief in her hand. At nine in the evening, mass was sung, and then started a long, slow procession towards the church of St Mary, down in the new town.

In the procession were Christ, still on the bier, Mary, and fifty to a hundred white-robed men, with only their eyes showing through little slits in the cloth. Among these were spaced at intervals six men carrying upright before them heavy wooden crosses twenty feet high. Three other persons represented Christ as the condemned man and the two thieves, all bent double with the weight of the crosses they carried on their backs, and quite barefoot.

Arrived at St Mary's, people packed in and sat or stood to listen to an old Franciscan monk from a neighbouring monastery, who, after a preliminary glance at his notes, raised his head and began to preach, holding the congregation's attention in a long, excellent sermon. When he had stepped down from the pulpit, the procession got under way again—a very complicated matter. The men with the crosses had difficulty in passing them beneath the doorway. Others had to relight their candles in order to be able to read their hymn-sheets outside in the dark. It was a simple hymn they sang, over and over again, with an endless number of verses, rather like the old sea-shanties, and in the whole procession and the crowds following only the aged people knew the words by heart.

At last all the actors were outside, walking round and round the great square before the church door, while the rest of us huddled by the doorway or in the far corners of the square. After a while one was aware of a vague shuffling, as if something had gone wrong; one line of the procession had turned about and was walking in the opposite direction. Gradually the two circles thus formed narrowed, in and in, till everyone was gently jostling the other in a close maze. Mary,

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strapped to her platform, tottered threateningly, but with the help of her four bearers maintained her mournful dignity; Christ on the bier was nowhere to be seen; and one expected the candles at any moment to set fire to some white robe or other, or hymn-sheet. But no; the feeble flames rose straight up with never a flicker in the warm, night air. Finally, all slowed down and halted, clogged into immobility, while still intoning the same monotonous verses. Then, just as one began to wonder what next, the maze slackened itself, and, widening out and out, unwound, till it occupied the whole of the square again. Here the two lines started walking round together, and after a few turns left the square to go on through the town, the rest of us following as before, tripping and bruising even our shod feet on the sharp cobbles in the dark, narrow streets. This time we drew up at the harbour, and repeated the performance.

And now we made for St John's in the fortress again, where Christ had lain in state. It was only at this part that I saw a possible significance in the contracting circles. We had stopped at an uneven space on the steep road, and, as the figures walked round and in, one was reminded of ascending a hill, where one climbed, not straight up, but in circles which narrowed at the top. Might this be the way to Calvary? It seemed obvious, but no one could confirm my surmise, nor give any reason for the name 'Granidola,' nor agree, nor disagree, that it might be a deformation of *gravidola*, and mean 'ascent' or 'climb.' Instead, all feasted their eyes on the familiar sight, like country children at their first film, and sought for nothing more.

THE Calvi celebrations are typical of the Easter celebrations throughout the island, though not quite identical with them. In Sartène in the south-west, for example, Christ and the two thieves are chained together by the ankle, and beaten with small rods all the time.

In the little villages the celebrations become very easily tawdry, while fanaticism quickly leads to exaggeration. Some people remain singing throughout the night in church, much against the will of the priests, who turn off the lights—'*Car il y a toujours des scandales, monsieur,*' one hideous old woman kept on repeating to me, with a jealous leer.

Easter Saturday, however, sees a more effective ceremony than Calvi's Granidola and its counterparts, for then the shrouds are removed from the statues, early mass is sung, and in the villages and the smaller towns, that is in nearly all the towns, the priests, in many cases helped out by the local monks, go from house to house, and sometimes from room to room, blessing the households. Thus, with the olive branches still hanging up in the home and the priests' blessing, families can be assured of good luck for another year. Good luck seemed an odd way of putting the thing at such a moment, but doubtless the Corsicans meant no more than happiness and prosperity.

Whatever they meant, the priests' visit brought Easter right into their homes, so that the people started renewed, without the flatness of having left behind them in church something which they might only approach, but never make an integral part of their daily life.

Poet's Choice

No, no, my soul!
We will not go.
We'll help the garden's
Sweetness grow,
We'll watch the shining
Current flow,
We'll wave our love
To life—and so,
The string will sing
Beneath the bow.

No, no, my soul!
It would not do
That ever you and I
Should sue
The world for gain—
It would not do.
We have our gold,
And silver too!
Contented so—
We shall not rue!

JAMES MACALPINE.

Charabanc to Prison

II.—Routine

COOMBE RICHARDS

ROBIN CRIMES was roused—I will not say awakened, for who knows if, or how, he had slept—by the loud clanging of a bell. Presently his door was thrown open to a peremptory order to make haste to wash and shave (a razor-blade was handed to him with the admonition not to lose it; it would be collected after breakfast), to slop-out, and to put up his bedding as he had found it the previous night. He was told that he would be for Reception Board, Chaplain, and D.P.A.S. (Discharged Prisoners' Aid Society) at 9 a.m., and to take care that he was clean and presentable.

A few minutes later Robin was tailing on to a long queue on the way to the 'Recess' (lavatory and slop-sink). Now, contrary to the evening before, there was a heavy, sour odour of humanity, impossible to eradicate where hundreds of men have been closely confined for twelve hours or more, and then suddenly have their rooms all thrown open together. Tempers were short, and everything was hurry and bustle, a race against time. Close on a thousand prisoners had to be slopped-out, issued with razor-blades, applications noted, breakfasts served, and roll checked, before the staff themselves went off duty for their own morning meal.

As he neared the recess, Crimes witnessed his first sight of modern prison 'cafard,' when two men came to blows and a flow of foul language over the most trivial of incidents—the use of the lavatory. This was but a flare-up, and over almost before it had begun, without 'authority' interfering or being any the wiser. Later, he was to see more serious affrays, a stand-up fight over prison 'bullion'—the all-powerful few grains of 'snout' (tobacco); and a sly and savage 'gang warfare' attack. In both these cases, members

of the staff were at once on the scene, the men concerned being placed on 'report.' This meant appearing on a charge before the Governor, with loss of privileges and punishment to follow.

IN a surprisingly short space of time, order appeared out of seeming chaos. Hundreds of men completed their toilet and were again shut behind doors, whereupon breakfasts were served. With a quick rattle of keys the cell door was thrown open to disclose an officer attended by two (prisoner) 'food orderlies.' From a large metal universal can, the officer ladled a pint of hot porridge on to Robin's out-held plate, and, from another, filled his mug with tea, and then passed him an 8-oz. 'cob' (prison-baked bread), and 1 oz. of margarine. A second after, his door was slammed, but he could trace the progress of serving all down the landing by the sound of doors banging shut. Following on quickly came the click of the observation-glass cover as the 'checking officer' peered through, hurrying along on his rounds. Within ten minutes of the commencement of serving, the wing was completed, and the staff could be heard falling in for the roll and dismissal to breakfast. Silence reigned with only patrol officers left on duty.

Crimes sat down to his lonely meal. He wanted no food; that would come later. The porridge was first-class—there was a small tin of sugar to sweeten it and the tea—but his stomach revolted. He nibbled the bread, which, too, was excellent, but that was also pushed to one side. He drank the tea and felt rather better.

From outside the window came the sound of some man calling to another, requesting

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that something be passed between cells on a string (fishing, it's called). Someone shouted 'Look out!', and silence ensued.

LITTLE more than an hour had elapsed before there could be heard the clatter of footsteps as the staff returned to duty, and cell bells started to ring, some of them furiously. Doors slammed, keys jangled, and soon all was bustle again. Every cell was unlocked, razor-blades were collected and carefully checked, while some men were allowed to the closets. Then came a volley of orders snapped out in quick succession. 'Stand to your doors—get back there, wait for it! Lead on the Ones! Lead on the Twos! Single file, and stop that chatter!' Robin watched long lines of men filing away from the cells on the ground and first floors, to march out of the wing. Now it was his turn. 'Lead on the Threes!' and the men on his landing began to move off down the stairs. Just then the man standing in the cell door next to his turned and said, 'Look, mate, you're a "reception." When you get downstairs don't march out with the others. You fall in with the new chaps down by the Office—see?', and with that he slouched away. Robin followed behind, feeling bewildered and lost in that seething hive of humanity.

Some thirty other convicted men were lined up near the Office, a glass-fronted affair not unlike a newspaper kiosk, and he fell in beside them while an officer with a list called out their names to reshuffle them into classified order. This done, they were given some instructions. 'Pay attention! Now in a few minutes you will be going in to the Reception Board. You'll go in, in the order you are. When you get inside, stand on the mat and give your *full* name and number to the Deputy Governor. Answer the questions, and come out smart when you're done with.' Presently the interviews began. When Crimes's turn arrived he found himself standing before a polished leather-topped table, confronting a youngish, middle-aged man, with a gold-shoulder-strapped Chief Officer standing beside him. At one end of the table sat the Chaplain, surprisingly young and with a smack of the sea somewhere about him. At the other end was a kindly, bespectacled man, whom he presently discovered to be the D.P.A.S. agent, correspond-

ing with what, in the world outside the prison walls, would be known as a Welfare Officer.

Robin stood smartly to attention, and gave his name as directed, but for the life of him he could not remember his number; the Deputy Governor gave it for him. Then followed a few brief questions; checking of sentence, property, and cash; an inquiry as to whether he had ever 'been in trouble before.' In response to his 'No, sir,' to the last, and after a scrutiny of a document lying on the table, he was handed two red, five-pointed stars and told to get them sewn on to his sleeves—the coveted insignia of a 'Star Class' prisoner, one who had never been in prison before. The Deputy next told him, 'being sentenced to penal servitude, your final classification rests with the authorities in London. If you are—as I expect you will be—made a star convict, you will not remain here but will be transferred to a specialised prison elsewhere. In the meantime, you will receive first-offender treatment and privileges—they are privileges, you know!—and will be located in a special part of the prison amongst other star prisoners. If, during the time that you are here, you have any applications to make, then put down to see the Governor,' and, turning to the Chaplain, he said, 'All right, Padre, I've finished—go ahead.'

Hitherto, Crimes had had little to do with parsons, and had but a nodding acquaintance with several. He had gone to church on occasion, at festivals and such like, but had never been a churchman. Now he wondered what this cleric would want of him—some sort of pi-jaw, he supposed. There was nothing like that. 'Good-morning,' said a pleasant, cheery kind of voice, and the D.P.A.S. agent also joining in, a few simple enquiries were put about his family and future prospects, and about his need of any help, the interview finishing with: 'All right! Go along now; I'll be seeing you later. Don't forget though, if ever you want to see me, just tell your officer and I'll be along for a chat.' With a nod and a smile Robin was dismissed, and in a moment was back outside with the others. Somehow, he felt easier inside—as though some of the weight had gone from his shoulders. These men were not theorists. They had experience, and were not there to criticise. He had sensed understanding and manliness. Only a fool

CHARABANC TO PRISON

or a self-centred egotist would fail to see that. Also, they were practical and not in the least sentimental.

IN ten minutes' time, with several other stars, Crimes was marched off to the 'star workshop,' and was soon being instructed in the mysteries of sewing a mailbag. He had never realised before where mailbags had come from! The instructor, a typical ex-Naval petty-officer, with a gruff exterior but a fine knowledge of men, told him that at the end of a month he would be entitled to 'earnings' (a small weekly sum with which tobacco or sweets might be bought) and other 'Stage' privileges, including that of having his meals 'in association' (instead of alone in his cell), and added a friendly, sound piece of advice. 'Listen, son. Work hard, obey orders, don't get on the "fiddle" (mixing up in illegal transactions), give no old buck (cheek), and you'll get on all right. Remember you've only got your sentence to serve—nobody else's—and you get one-third time off for "remission."'

Towards the end of the morning, the hundred or more men in the workshop were ordered to hand in their tools (scissors, knives, etc.) for checking and prepare to go out to exercise before returning to the prison building for dinners. As they filed out of the shop, each man was required to mount a small wooden stage, take his handkerchief from his breast-pocket, hold it in his left hand, and stand with arms outstretched for a rub-down search. Once a fortnight all men were searched in their cells.

As Robin emerged into the sunny spring air of the large exercise-yard, with its narrowing circles of concrete paving, he noticed that men were forming in pairs, and that normal conversation was allowed. He knew no one to join with, but, just as the thought crossed his mind, he recognised another new-looking man standing near by as a fellow-prisoner from yesterday's Court and, automatically, they fell into step together. Soon they had exchanged names and, as was perhaps only to be expected, had swapped 'sentences,' too. Both felt some relief at being able to confide in a fellow-unfortunate.

A short half-hour later they marched back to their cells, or messes for those who were entitled. Robin went to the cell he had occupied the previous night, but was informed

by an officer to be ready to move as soon as dinner was over. He was to go to the wing in which all star prisoners were located apart. Rather to his surprise, he found he was hungry, and wondered what kind of fare he would get. Newspapers spoke of 'bread and skilly'; perhaps he would now learn what it was like. He had not long to wait. Within a few minutes the morning serving routine was repeated—though men permanently lodged in the Wing picked up their meals in 'dinner tins' on the way in from work. Robin received his at his cell door, the bottom half of the tin containing a good helping of fried fish, fresh greens, and roast potatoes, while in the top was semolina pudding. After a moment's hesitation—for no food looks at its best when served in a tin—he attacked it with gusto, and found he enjoyed it. He even wondered whether, if he summoned courage to clatter his bell, it would be possible to get any more, but decided that that was too much to expect.

Ninety minutes afterwards he was unlocked and ordered to take up his kit and move, and with several other stars was soon following an officer into G wing, his home for the ensuing few months.

AS the days grew slowly to weeks, and the weeks to a month, Robin began to find his feet and settle into the routine. Everything functioned like clockwork, and countless small details dovetailed together. He went to Chapel twice on Sundays and once in mid-week, and attended a concert of good music. He bathed once a week, and revelled in the hot soothing water after the usual cold wash. His clothes were changed regularly, and his meals varied to a surprising extent, though he soon discovered he was generally hungry, especially at night. After he had been in a few weeks, he was given fresh work, being allocated to the 'Manufacturing Stores,' where the time passed more swiftly, and his job had some interest. Each week he drew books from a well-stocked library, and found pleasure in reading as seldom before.

He came 'on Stage,' which brought simple but valuable privileges, not least of which was permission to smoke, within the limit of his earnings, and have meals in company with others—though some of his mess-mates left much to be desired. Here ordinary amenities were observed, and the food was served on

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plates in a civilised manner. There was a selection of daily newspapers to enjoy, and such games as chess, draughts, and darts. He made one or two friends—in that close association they became more than mere acquaintances—but had no intention of allowing the friendships to ripen 'outside.' He lost a few pounds of superfluous flesh, but felt fitter than he had done for years; in a way, he regretted even the few cigarettes he was able to smoke, yet they were a solace and steadied his nerves.

Often, from out of his cell window, or when moving about the prison—as he did quite a lot, being a storeman—he had the opportunity of seeing the overcrowded masses of recidivist (frequent offender) prisoners, many of them unprepossessing and hardened-looking roughs, with whom he was glad he had not to mix. There were all sorts, from men serving a few days for being drunk and disorderly, to dangerous criminals sentenced to long terms of penal servitude and waiting removal to a Convict Prison, such as Dartmoor or Parkhurst. He learnt that those wearing dark patches of cloth sewn on their breast-pockets and on one trouser-leg were prison-breakers—men on the 'escape list.' They always marched at the rear of any party they were in (in order to be kept under constant supervision), and were subject to certain special restrictions. Other men, working about the prison on their own, wearing a red armband round their left sleeves, were 'Red Bands'—trusties, some people call them. Then there were small parties of men dressed in plain brown, 'debtor prisoners,' working in 'honour parties' without the supervision of one of the staff. The 'farm parties,' individually-selected men of good behaviour, were fortunate enough to leave the prison every morning in waggons and lorries to work on the land under arrangement with various Agricultural Executive Committees. These men returned in the evening, tired but cheerful, and looking as though they had been serving overseas. All sorts of men from all walks in life! Robin found much food for study and thought.

There was one execution during the time he was there, that of a man who had committed a notorious and loathsome murder. The routine went on, and Robin learnt none of the details; no one did, despite stories by know-alls. One day, the news went round that some recidivist prisoner had seriously

assaulted an officer, and was to be brought before a special meeting of the Visiting Magistrates, charged with using gross personal violence. Somewhere later it trickled through that the man had been flogged with the 'cat,' a punishment with which the majority of reasonable men entirely agreed.

Had he been asked, Crimes would have expressed admiration for, and gratitude to, the staff as a whole, although, as in almost any large body of men, there were one or two who showed to disadvantage when compared with the majority. He considered the officers to be conscientious and humane, performing a difficult—and often quite thankless—task with efficiency, humour, and, above all, tact. As far as he could see, a man had only himself to blame if he got into trouble.

WHEN some two months had elapsed, Robin and several other long-term stars were called up for interview with the Governor, and he wondered what it might be. He was told to give his *full* (always that emphasis on the full, to ensure identification) name and number when he went in.

'Well, Crimes,' was his welcome, 'you have been allocated to Hillwake Prison as a star-class convict. I cannot say when you will go; that depends upon vacancies. You will, no doubt, have heard all about Hillwake; it is very different from this. There, there is more scope in every way. Men are trained and given a real chance to make good—many have never looked back. Once you get there, the rest is up to you—if you grasp the opportunities given. And,' he smiled, 'there are far better privileges—providing they don't get abused! We'll let you know when you are going, and I hope you will get on all right. Good luck! Next—Chief, please.'

In all, there were quite a number of men waiting for this longed-for transfer, but the time dragged slowly as week after week passed by, and no further news came. Some declared it was all a piece of 'flannel' (bluff)—Hillwake was full up and there had been no transfers for months. But Robin was sure the Governor had told him only the truth. Then, at last, as October drew to a close and the days shortened, fifteen star convicts were called out after breakfast one morning. As the names were read over and the list neared the end, Crimes had an awful

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suspicion that he was going to be missed, and then his heart leapt—his was the thirteenth!

Soon they were cheerfully marching away for medical inspection (no man is moved unless passed fit and clear of infection). Fourteen were marked 'fit transfer,' while one unfortunate was shown as 'unfit at present.' 'Thank God, it's not me,' said Robin to himself.

On that last night in the big Local Prison, he asked permission to remain in his cell after tea and not join in the usual 'evening association.' Somehow, he felt he did not want to say any good-byes, or see, perhaps, looks of envy on other men's faces. Nor did he wish to listen to the boasting of some who were going; there are many wasters even among stars. He had a letter to write, a special one—he had refrained from writing any, until now—and he desired to be alone with his thoughts, already far different from what they had been that evening when he was first imprisoned. He slept little that night, but lay listening to the silence—and what a silence it can be in a vast, crowded prison—broken faintly at times by the soft footfalls of the slipper-shod night-patrols. Before dawn he fell into a fitful doze, to awake, at the sound of the bell, feeling tired and unrested.

AS soon as Crimes and his thirteen co-travellers had washed, shaved, and slopped-out, they were hurried off to Reception, where breakfasts were served and they were all changed from prison garb into their own, almost forgotten, private clothing. Unlike the day of Robin's arrival, it was now his well-tailored suit that felt strange. It no longer fitted as well as it had done. It sagged round the middle, and was a shade tight over the chest. The humping and carrying of bulky store bales had developed sinews and muscles grown soft in civilian life. His private belongings were brought out and checked over, after which he signed them 'off' in the property book. In half-an-hour the company emerged from the cubicles an unrecognisable crowd. The sameness of

prison-grey had vanished in a resplendence of lounge suits, coloured ties, and pullovers, and of sports coats and grey flannel trousers, or individual tastes in socks and brown or suede shoes. All the men had an air of expectancy about them, rising almost to boisterous hilarity (carefully subdued under the watchful eyes of the officers) as the sound of a powerful motor-engine, drawing up outside, came to their ears. This time they were being fetched from their very door by their chariot to another unknown.

Steel cuffs were locked on as they were marshalled in pairs, then the door was thrown open, and the well-known order to 'Lead on!' rang out. Outside, looking the acme of luxury with its soft, cushioned seats, was a large cream-painted motor-coach. As the men climbed in, Crimes failed altogether to notice the bite of the steel. He was too excited at the prospect of the long journey ahead. This time it was no paltry drive of twenty-five miles, but one of well over a hundred.

In a few minutes the coach was reversing to manœuvre the turn to the main gates. Then the inner gate was slowly drawn open for them to pull under the archway. The steel bars clanged to behind them as the outer gates swung open and they emerged into the free public highway, where people were passing with but a cursory glance at that strange cargo of men. To Robin this removal meant little more than a change, although one for the better he felt sure, for he had a home and prospects awaiting him, which most of his companions had not. For them the change—should they care to make the best of it—spelt rehabilitation and a chance, maybe, to learn a trade and build a future which would bury the past.

It was the first of November, a day full of mist, with the autumn tang in the air all about them. As they pulled out of the suburbs and into the country, the trees were no longer green, but leafless and stark, whilst the fields were bare with the harvest gathered in. But now, *inside* the charabanc, was something of joy, and a measure of hope for the years to come.

African Schoolboy

JEFFERY TEIGH

LITTLE Juma, son of Mugabo, trotted along the track swinging his bottle of water in one hand. In the other he clutched a hard, grey piece of cassava root. He was on his way to school and had his food for the day.

He scuffled along in the dust and rejoiced to feel the sun on his back. When he set out the world was still dark and cold. Now the dew sparkled in the early light and Juma, seven years old, ran naked down the road. When he reached school he would put on his disreputable breech clout, but at present it was wound round his neck, leaving his skinny frame unhampered. Bare, black, and glistening, he hurried along in pursuit of learning.

Sometimes Juma thought this education business over-rated. His father did, too; in fact, he had had strong ideas about it and had been almost rude when the District Commissioner had told him he must send his youngest son to school. 'Who will herd my cows?' the old man had asked. 'My cattle are more important than books. I cannot read or write, and am I the worse for it?'

But the District Commissioner had been firm. 'Cows are fine things, indeed,' he had answered, 'but your children should be treated differently, even though you may not think so. Five other sons you have and three daughters, who have never been to school. This child of your old age must have a better chance.'

So old Mugabo let Juma go to the little bush-school four miles away, though he grumbled and was not the least bit impressed by the future the D.C. painted for the little boy once he could take his place in a world that was rapidly becoming ever more and more civilised.

SOMETIMES, thought Juma, the walk to school was bad, and never more so than in the rains. Then the river rose, and Juma had to splash through half-a-mile of swamp, chest-deep in places.

There was the dreadful day when he had seen a crocodile staring at him from a hummock that rose above the swirling, muddy water. Its evil little eyes peered at him and the long heavy head swung slowly in his direction. The mud sucked at Juma's feet and his heart nearly burst in his breast, but the crocodile was not attracted by the meatless little morsel. But, Mama! Mama! thought Juma, what agony to endure for a little learning!

More than once he had seen elephant on the track, vast grey mountains of animals towering between the trees. But they didn't worry him. He would be a very stupid little African indeed who could not slip quietly out of sight and scent if he found a large 'tembo' taking too much interest in him.

Occasionally Juma did not set out in the dawn. That was when, the dreaded whisper 'Lion! Man-eater!' was heard in frightened voices round the huts. Sometimes at night a scream in the distance would announce that death had struck. Drums would beat and fires be lighted. In the morning people would gather and shake their heads despondently. No one would stir far abroad until it was certain the danger was past, for man-eaters were unpredictable and would kill swiftly and silently even in broad daylight. There was nothing they liked better than to lie up alongside the track down which a little, frightened schoolboy scampered home. So when this danger lurked in the countryside, Juma, for once, remained with his father's cattle at home.

To-day, however, peril did not exist. The

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sun shone brightly, and high in the blue air a buzzard floated on motionless, tip-curving wings. It was September, and the trees of the lonely bush glowed in their new colours, pink and gold, orange, brown and palest green. Juma had no interest in the colours of the trees, but when a pack of monkeys leaped across the track he shouted out: 'Get off my road, you, or I'll tie your tails together.'

Although he was so small, he made good going, and he arrived as the schoolmaster began to ring the bell. Juma counted it a fine bell. Never having been nearer to a railway-line, he did not recognise it for what it was—a strip of railway-line brought, heaven knew how or why, to that remote place. Now it hung from the lower branches of a mango-tree and its clangour drove the pigeons from their resting-places.

CHILDREN were coming in now, and soon forty or more were assembled. They ranged in age from six to ten, though not a single one could have told you his age. The school was new, and taught only the First Standard to this little bunch of Africans, struggling towards the rudiments of literacy.

Eh! Eh! thought Juma, lining up with his fellows, this 'Shule' is a fine place. Our house is a grass hut shaped like an onion, but here I sit in a beautiful building of poles and mud plaster. Perhaps, after all, there is something in this reading and writing. If I learn now, when I am a man I may be able to build myself a house like this. But, decided Juma, I shall close it in more; why must there be all these open spaces they call windows? No wonder, with all this air, we cough and wheeze and spit so much!

His thoughts were interrupted by the teacher, who shouted and clapped his hands. Obediently Juma began his day of education by jumping, raising his arms and bending his knees. Passively he accepted the performance of these simple exercises, and it did not enter his mind that to attain to this benefit his spindly legs would walk eight miles that day. It was just one of those odd things that the 'Serkali' required of its pupils, and that was that.

Inside the building the little boys squatted on low wooden rails. Juma stared fixedly at the master and reflected that perhaps one day he, too, would be able to wear such

clothes. For the 'Mwalimu' was smart that day. He had on a bright-red shirt, heavily checked with green, while his trousers, which, curiously enough, appeared to be the bottom half of a pair of pyjamas, were tucked into vivid blue socks. But best of all were his shoes. Ah! sighed Juma sadly to himself, would that I, too, could have shoes like that, and he gazed with longing at the cracked, lop-sided, and laceless objects that encased the schoolmaster's feet with so much discomfort.

The 'Mwalimu' flourished his piece of chalk and scribbled on the blackboard. At once Juma's mind was far away. If only he could obtain a little bit of this magic lime stick. Surely with it he could mark the black goats of his father's herd which would always wander off with their neighbours' beasts?

Juma's mind brooded darkly on the difficulties of herding as the teacher wrote letters on the board. Then the 'Mwalimu' turned to the class. 'Now,' he said, 'you have done this before. Let us read. All together, now, aloud!'

At once a fearful babble broke out. Juma shouted with the best of them. In his excitement he turned his back on the blackboard and waved his fists at the boy behind him. This was fun! This was noise in unison! He did not understand the letters on the board or know what he was shouting, but if this was education, he liked it. If ever he shouted in his own home his father cursed him and told him he would scare away the spirits of his guardian ancestors.

'AR, AR, AR,' yelled the schoolmaster, pointing to the first letter on the board, and stressing the broad pronunciation of the Swahili A, and 'AR, AR, AR,' shouted the little boys.

'BEE, BEE, BEE,' they bleated, and in the middle of the din a long, grey car drove up outside.

'Stop!' roared the schoolmaster, 'The Bwana District Commissioner comes! Outside, all, and greet him!'

Juma was pushed and jostled in the rush that followed, but a second or two later found himself lined up in front of the school. The D.C., who knew what was expected of him, had not hurried out of his car. Now as he stepped forward, he raised his hat and turned to the 'Mwalimu,' who bowed, and said self-consciously: 'Good morning, Sah.' The master turned importantly towards the

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waiting boys and, relapsing thankfully into Swahili, gave his order. 'Pigeni Makofi!' he said, and obediently eighty black palms clapped respectfully, and forty voices chanted 'Jambo, Bwana Mkubwa.'

THE D.C. looked at the little building, and sighed. If only he had more money he would build a real school, not a wattle-and-daub affair like this. But it wasn't only money that was wanted. His people were still so backward that there was not a mason, not a carpenter, among them. And as for burning bricks—ah, well, thought the D.C., with a rueful grin, someone's got to start from scratch, and he waved his hand in greeting to the raw material before him. His eyes passed down the line of little boys, and for a moment his gaze rested on Juma. That's old Mugabo's son, he remembered. I wonder if he'll do any good. Perhaps one day his education will help him to get a better standard of living, build himself a finer, healthier house, and get some decent clothes on his back.

He passed into the building, and Juma stared at him with awe, uncomprehending that for a few short seconds he and the man who, to him, represented the highest in the land had had the same brief thoughts.

WHEN the inspection was over, it was time for the midday break. The D.C. had driven away, and Juma and his friend Alois sat under the shade of a baobab-tree and ate their food. Juma looked covetously at the sugar-cane with which Alois finished his meal, but Alois was giving nothing away, and Juma munched at his cassava root resignedly. He came of a breed that did not expect something for nothing, and, least of all, food. He drank his water and gave the bottle to the teacher for safe keeping. He might be unable to read or write, but he had no illusions about his fellows, and a bottle was a coveted possession.

'Come,' said the teacher, 'it is time for work in the shamba,' and the little boys set to at the last task of the day. Some wielded hoes a good deal too big for them, while the smaller ones squatted on bare hunkers, removing weeds and stones from the ground, which in the rains was to be planted with maize and beans.

Juma rather enjoyed this work, as he could chat with his friends, and occasionally push one over into the dust, just for the fun of it. 'Ah,' he remarked wisely to Alois, crouching alongside him. 'We work well for the "Serkali." When the crops grow in this shamba will not the D.C. say we may make our midday meal off them?'

Alois snorted in contempt at this display of ignorance. 'Indeed, that is the idea, but who will get the beans? The "Mwalimu" or us?'

AS the shadows lengthened, Juma set off for home. His thoughts were on the supper his mother would have prepared for him. Porridge of millet, as usual, no doubt, but perhaps he would be lucky to-day and get a few beans, or even, it might be, a pinch of salt.

Lizards ran up the tree-trunks as he went by, and a coucal spoke mournfully from a bush. The evening sun glowed over Africa, but Juma thought only that he felt hungry, and that life was a puzzling affair.

Suddenly he stopped as a vision crossed his mind. No longer was he the small ignorant boy, destined, for all his days at school, to live but little higher than the soil which supported him. He saw himself like the magnificent Shabani bin Mzee, who had visited the village no more than two months ago.

Was not Shabani a product of a bush-school such as Juma now attended? And had he not gone on to higher things? Now he was a clerk in government service, at eighty shillings a month. Did he not sit all day in ease and comfort on a stool in an office, and wear beautiful European clothes, even better than those of the schoolmaster himself.

Juma took a deep breath. What Shabani had done, he could do, too. He looked at his bare, meagre frame, standing alone in a lonely Africa. He looked at his shoeless feet, deep in the dust. Slowly he drew his toes along the ground, his face set in deep and painful concentration. Two minutes passed, and then Juma added a line. He stood back and stared at his work. There, wavering and crooked, but unmistakable, the first letter of the alphabet was traced at his feet.

'AR, AR, AR,' sang Juma, and trotted home in the first flush of literacy.

Needle Knowledge

LAURENCE WILD

WOULD it surprise you to know that the annual output of hand sewing-needles made in this country runs into several hundreds of millions; and that these polished, sharp-pointed fragments of Sheffield steel wire, now helping us importantly toward economic recovery, were once imported luxuries?

The hand sewing-needle is, of course, one of the oldest domestic tools in the world. It is generally supposed that the first needles were thorns, though, of course, no special evidence exists to prove it. But, from discoveries made in ancient caves and other prehistoric dwellings, we certainly know that tens of thousands of years ago people sewed their rude clothes with needles made from fish bone, reindeer bone, and ivory.

The needlemakers shaped and sharpened their bone needles with primitive flint knives, and smoothed and rounded them by rolling them in a groove in a stone. Some of these ancient needles had a small hook, in which the thread was caught and held; others had a small round eye, skilfully bored with a flint awl.

When once the art of working metals had been discovered, needles soon improved. We have the evidence in the form of copper and bronze needles used long before the birth of Christ and come upon in ancient Egyptian tombs; similar needles have been found in the dwellings of the Celts who lived in this country before the Roman invasion. The Romans themselves had needles made from a variety of materials, including bone, bronze, and iron.

No doubt to those who have stopped to examine old needles displayed in museum showcases, it has seemed hardly possible for such rough, broad-eyed, and somewhat bodkin-like tools to have served for anything but crude needlework. Yet, in the fingers of skilled needlewomen, these old tools were turned to

good effect. In the 'Gesta Guilielmi Ducis,' a series of ancient epic poems celebrating the victories of Guillaume au Court Nez, Count of Toulouse, who died in A.D. 812, reference is made to the fact that 'English women excell all others at needlework, and the art of embroidering with gold.'

It is difficult to believe that any of this ancient needlework could remain to prove such a statement, but when, over a century ago, the tomb of St Cuthbert, who died in 687, was opened in Durham Cathedral, the authorities found a stole and a maniple beautifully embroidered with coloured silks and gold thread on a linen ground lined with silk. These precious and beautifully embroidered relics, with inscriptions that prove their ancient origin, are preserved in the Cathedral and speak eloquently of the work of old-time needles, and the skill of the needlewomen who plied them.

THE early history of steel sewing-needles is largely a matter of surmise. The Chinese are supposed to have been among the first people to make them, and it is said that they were brought into southern Europe by the Moors about the year 1200. There is no doubt, however, that our first steel needles were imported from Spain and Germany, and were highly prized by those people who were fortunate enough to be able to afford them.

The importation and distribution was in the hands of the powerful medieval Merchant Haberdashers, who, because the well-made and finished foreign needles were in great demand, and sold at high prices, did their best to discourage needle-making in England. In spite of the Haberdasher opposition needle-makers gradually established themselves in London and learned to make steel needles equal to those from abroad.

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Thomas Fuller, 17th-century divine and historian, writes: 'The first fine Spanish steel needles in England were made in the reign of Queen Mary in Cheapside by a negro; but such was his envy that he would teach his art to none, so that it died with him. More charitable was Elias Kraus, a German, who, coming into England about the eighth of Queen Elizabeth, first taught us the making of Spanish needles; and since we have taught ourselves the using of them.'

It was in 1656, during Fuller's lifetime, that the Needlemakers Company received its first charter from Oliver Cromwell. This charter was later superseded by one from Charles II., which gave the Company control of the industry, and charged it with the duty of ensuring the quality of all needles offered for sale, because, in the words of the charter, 'Sundry persons use and practise abuses and deceits in the making of iron needles and needles of bad stuffs to the great wrong of the people of this Kingdom and to the scandal of the art and mystery of the needlemaker.'

Among its many provisions the charter gave the Company 'Powers of Search against the Hawking of Needles in Inns,' and also authority to take action against 'the Buying and Selling of Insufficient Needles,' and against anyone 'Swearing and Reviling the Company.'

The Worshipful Company of Needlemakers is still one of London's Livery Companies, and, although it no longer controls the manufacture of needles, its members take an active interest in the wellbeing of the industry. The Company has the honour to include Queen Mary, and our present King, as members of the Livery.

IN the days before machinery improved and stepped up production, needlemaking was a slow and laborious business. Each needle had to be manufactured separately, and in stages needing the handiwork of several craftsmen. One man, using shears, cut up the needlewire into the required lengths, another hammered one end of each length flat in preparation for eyeing, which was carried out in two stages. The first stage consisted in making the impression of the eye with a square-ended punch. The second stage was carried out with a sharper punch, which fitted the square impression, and was driven through. This was repeated from the other side. The partly

finished needle was then passed to other handworkers, who filed the head round, pointed, tempered, straightened, cleaned, and then gave the needle a final polish.

To-day, the needlemaking industry, localised around Redditch in the Midlands, is equipped with machinery that is almost superhuman in ingenuity of construction and productive capacity. In the initial work of manufacture three coils of needlewire are fed simultaneously into a cutting-machine, through which the wires pass at an average speed of 70 feet per minute, so that over 200 feet of wire is cut up in that time. The cut lengths of wire, each sufficient to make two needles, are pointed at each end by a grinding-machine, capable of an hourly output of up to 60,000 points.

The eyeing process is still done in two stages, but nowadays a machine-operated stamping tool makes the impressions of two eyes in the middle of each double-pointed length, and then another machine-operated tool does the actual piercing at a rate of over 19,000 eyes per hour.

In spite of the wonderful work done by modern needlemaking machinery, handwork has not entirely disappeared from the industry. For instance, the breaking of the double lengths of eyed and pointed wire into two separate needles is still done by hand by dexterous women workers, who can break off the astonishing number of more than two million needles per worker per week. Some hand sewing-needles still have the waste metal ground off the side of the eye, and their heads ground round by highly skilled handworkers, who are individually capable of finishing up to a million needles per week.

With figures such as these in mind, it is perhaps a little easier to realise the huge figure of 32,000,000 which represents the weekly output of hand sewing-needles of a Redditch organisation with over two hundred years of needlemaking experience to draw on.

Yes, one might well ask where do all these needles go to. Like many other British-made articles nowadays, Redditch sewing-needles are important dollar-earners, and a very large proportion of the industry's enormous annual output is exported to its best customer, the U.S.A. These British-made steel sewing-needles go also to practically every other country, near and far, maintaining for Redditch its famous and long-standing reputation of being the principal needle factory of the world.

Magical Dance Survivals in Britain

FRANCES COLLINGWOOD

BRITAIN to-day can still afford the onlooker living proof of the curious hold customs dating back to the pre-Christian era have even now on some of its citizens.

An exciting example of this is to be found in the ritualistic dancing which continues to be performed by ordinary hard-headed men from Bacup, in Lancashire, and which would not look out of place if chanced upon in the middle of 'darkest Africa.' The dancers, indeed, bear a far stronger resemblance to nigger minstrels than to British workingmen of the present time. But workingmen they undoubtedly are, living in a heavily-industrialised part of England, and one of them at least has been a member of the team for over twenty-six years.

The two dances for which they are famed take place in their home setting on Easter Saturday every year, and consist of a Garland Dance and the Coconut Dance. But, before giving an account of the dances, the extraordinary disguise of these strange dancers deserves to be briefly described.

Faces are blackened and are set off by white turbans, decorated with coloured feathers and ribbons, and the nigger-minstrel effect is heightened by black long-sleeved jerseys and black breeches banded by bells at the knees. Over this is worn the shortest of 'skirts,' which only reaches halfway down the thighs. The skirts are white, with three broad bands of red, and they are fastened over one shoulder by a white band which slants across the chest. White stockings and black shoes complete the outfit.

The habit of blackening the face is quite usual among traditional dancers, and is done so that the individuality of each dancer may be merged in the group. The name 'morris dance' probably came into being owing to this custom, for the Moors were,

it is held, the first coloured men known to people in this country, and so the strange folk-dancers with their black faces came to be called Moorish or morris dancers. The practice of smearing black upon the face persists right down to this day, even among urchins out with their guys on the fifth of November.

WHILE performing the Garland Dance, each member of the Bacup team carries an arched garland decorated with red, white, and blue paper-flowers. This is a Spring ritual dance, which is connected with the renewal of vegetation. The ceremonious dipping of the garlands towards one another in salute as the dancers proceed through a series of quadrille-like figures points to the pagan custom of propitiation of Nature to ensure the coming of Spring.

The Coconut Dance is unique in this country, although similar ritual dances exist in other parts of the world. Wooden discs, which are used to tap out rhythms, are worn on the hands, knees, and waist, and seem to exercise the same sort of function as do the bells of the morris dancer, i.e. to scare away evil spirits, and dispense the magic implicit in all Spring rituals. The curious way the dancers hold the discs to their ears and listen to them imparts a sense of mystery and magic.

When the Bacup dancers perform in the streets of Lancashire, they are preceded by a dancer wielding a whip. He is known as the 'Whiffler,' and it is his duty to sweep away all the forces of evil before the magic is wrought. This is a very usual custom in connection with such dances, but in some cases the 'Whiffler' carries a sword, and occasionally a broom.

The musical accompaniment to both these dances on all occasions is rendered by a modest little man in ordinary clothes who

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plays the concertina, and looks comically out of place among the leaping 'savages.'

It is quite extraordinary to think that these Lancashire men are acting under the influence of some deep-seated impulse, which compels them to express the same primitive urges which their cave-men ancestors gave vent to so many thousands of years ago. For these are no resuscitated ceremonies thrust upon unwilling yokels by earnest young ladies in sandals. Instead, they are examples of unbroken tradition handed down from dancer to dancer almost since time was.

IT is worthy of note that no traditional dances are to be found now in the South of England. Time in its march must have fastened an icy hand on that region, so that all the old beliefs were squeezed out. The morris dance, however, still survived in Oxfordshire when Cecil Sharp first started to make his collection of English folk-dances. Farther north, in Yorkshire, Durham, and Northumberland, the English Sword Dance maintains a fine unbroken tradition.

An excellent example of this is to be seen in the Grenoside team. These men are mostly miners who come from the outskirts of Sheffield. There are six of them, led by a captain, who sports a large rabbit-skin cap to identify himself with the animal kingdom as an act of propitiation. The members of the team wear short coats made of flowered pink calico trimmed with blue and red braid, white trousers with a red stripe,

and black-velvet jockey-caps decorated with yellow braid.

Quite early in the dance the swords are meshed together to form what is known as the 'lock,' and this is placed over the head of the captain. Each dancer then pulls out his own sword with a flourish, and the captain falls 'dead,' lying on the ground for some minutes before arising.

This act occurs in all English Sword Dances, and is an instance of 'imitative magic,' which goes back to the day when primitive man was so afraid that Winter's grip would never yield to Spring that he 'imitated' death and rebirth in this way in the hope that Nature would take the hint. In a great many instances several extra characters accompany the dancers, one of which is a doctor, who brings the 'dead' man to life again, thus symbolising the birth of the New Year. But the captain is the sole surviving character in the Grenoside dance.

The dance itself is taken up by the weaving of figures over and under arches made by the swords, which are characteristic of this type of dance. A tap-step is used between these convolutions, and from it has developed the complicated examples of specialised step-dancing which we may see on the stage all over the world to-day.

On the Continent one expects to encounter ceremonial dancing sometimes, but Britain is so small, and her progress in modern ideas so great. How doubly refreshing, therefore, to know that she still maintains these spontaneous links with her spiritual past.

Recovery

*By sunlit window, high in the house she lies,
Victorious but spent; her shadowed eyes
Neglect the new romance, the picture page,
Nor does she need the chatter of her age.*

*No primal dancing measures may sustain
The mind yet haunted by dread fever's reign;
And pastel-tinted tapestries have grown
But wearisome entanglements of tone.*

*She loves to hear the starling turn his notes,
To watch a smoke-plume ruffle as it floats
From chimney's discipline to boundless day
And finds with easy haste its airy way.*

VERA LUKE.

Jungle Days

IV.—Epidemics and Devil-Doctors

J. W. REID

THE worst things of all that I have had to contend with were epidemics, chiefly of cholera and smallpox. It is a terrible business when they appear in camp, and not at all uncommon. I have very often noticed the forerunner of an epidemic to be the sight of dead bodies floating down the river, as this generally means that some village higher up is experiencing an outbreak. One can only take all possible precautions, and hope for the best. I have been through two or three of these epidemics. Cholera I dreaded most of all. I have had three men die in one day, and as no one will touch the bodies I had to carry them away and bury them myself. The average native labourer won't fight against disease. He believes it to be fate, and makes up his mind to die, and generally does. Nothing one can do will save him.

Smallpox, horrible as it is, did not worry me nearly so much, as one had more time to deal with it, by building an isolation camp. I had to do most of the nursing myself, as I could only with difficulty persuade anyone to help me, and pride myself that it was due to my good nursing that a large number recovered, although they would probably have recovered by themselves had I not been there! I am not a doctor, my only qualifications being ordinary ambulance work and a book on how to treat the disease. I am thankful to say I never contracted smallpox, perhaps because of vaccination. Once, during a rather bad time of cholera, I caught that infection, just when the epidemic was about over. It was, however, a very mild attack, and I was none the worse a few days later, only very weak. I think my nerves must have been overstrained, and, being run down, I was more susceptible.

In health I have been very fortunate, for in the twenty years spent in the East, a good part of the period in outlying jungles, I was only once seriously laid low. I was in camp at the time, with only my boy and cook, and remember getting back one evening feeling like nothing on earth. I had no thermometer or medical equipment with me. I managed to get to my tent and lie on my cot just as I was, with clothes, boots and everything on, when ague began, and I can just recall my boy saying: 'Master got malaria,' and seeing him pulling over me the ground-sheet off the floor.

I recollect nothing else until about two days later. My boy was very concerned, and informed me that a devil had got into me. Probably I had been delirious and that had put the idea into his head. I noticed that my boots and clothes were still on, just as I had lain down two days before. I succeeded in drinking a cup or two of tea, and, except for feeling so weak and sick, I felt wonderfully well. That day, with my boy's help, I mounted my horse and made for headquarters, which was only about ten miles away. I reached there, although I had to ford a river up to my waist, and by way of refreshments I had a little soda-water with a dash of fruit salts, which sometimes remained where it was put, but not always. When I arrived, I found my temperature was over 104°, and I felt pretty bad for some time afterwards. I had this recurring every week or two, for a year or so, but with treatment got the trouble completely out of my system, and have not had a sign of malaria since.

ON my travels nearer civilisation, I sometimes had just as interesting little ex-

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periences, in a mild way. I was camped for a while near a fairly large village where the devil-doctors had still a good deal of power.

I may have used the wrong term for these gentlemen, but that is not of any importance. One night, for some reason unknown to me, I saw someone dig a hole in front of my tent, and bury something in it. I was rather curious, and next morning made inquiries, the outcome of which was quite intriguing. The person had seemingly a grievance against me, and had buried a dead cat, that had in some way been initiated with a devil, so as to cast a spell on me when I walked over the spot, and make me become mad. To try out the results, I went and stood on the spot for quite a long time without feeling any symptoms, greatly to the discomfort, I should imagine, of the undertaker, who was very likely watching.

These gentlemen, the devil-doctors, have certainly a wonderful influence over others, and it is most noticeably so among the labouring class. I have seen many instances of their power. They can put a curse on a man, so that he will die, or other form of revenge, and they succeed with their devilment. I saw a man die, who had had a curse put on him, and nothing we did could save him. In another case, a very good worker of mine had also a curse laid on him, and the poor fellow was slowly dying, and I did not wish to lose the man. After a talk with his fellow-workmen, they told me that, if a more powerful devil-doctor could be got, he would be able to extract the devil from the man, so I offered to pay for one, if he could be found and brought to me at once. After about an hour, one was found and brought to me. I took him to the dying man, explained the position, and told him to get busy, which he did, and started making weird passes over the sufferer, performed some sort of dance, and sang him a song. In the meantime, he had lit a few small fires round the patient. The treatment was an absolute success. The man began to recover, and the pupils of his eyes began to return to a normal position. Very shortly afterwards, he got up, and in an hour or two went on with his work again, cured. I gave the devil gentleman his fee with pleasure. I had got a good worker back, and an entertaining half-hour.

I came across a lot of similar cases worked in different ways. There was no bunkum about them, and I had no doubt in my own

mind about the genuineness of the proceedings, realising it was just a matter of the so-called witch-doctors having a stronger will than that of their victim, who was generally of poor intellect and accepted the devil-doctor's powers with absolute faith, with the results as described. I laid myself out quite a lot for these curses, and had many a devil put in me. They are probably in still, but I cannot say they have inconvenienced me in any way.

I VERY nearly let myself down once over a charm. I chanced to notice an arrangement like a pendant hanging round my pony-boy's neck, and when I inquired what it was, he told me it was a special charm he wore, which had cost him a lot, and, as long as he had it on, he was safe from any knife, spear, or bullet striking him. I asked him if it had the same effect whatever the charm was on, and on his answering yes, I requested him to let me test it, as I did not believe in charms. He agreed, and I tied it up to a tree-trunk about ten yards from my tent. He assured me that, if I fired at it, the bullet would not even touch the tree. Well, I got my revolver. I was quite proud of my shooting abilities with it, being able to hit a four-gallon oil-tin six out of six at twenty yards. This performance was perhaps child's play to many, but I did not brag about it, and kept my pride until now. I sat down and rested my hand on the camp-table, took careful aim, and fired six shots, not one of which even grazed the tree. My pony-boy was very happy. I was not. I told him there was something wrong with my revolver, and would he allow me one shot with a gun. He agreed, and I took my twelve-bore, put in a small-shot cartridge, took a good aim, and fired, with the result that all that was left of the charm was little bits scattered about on the ground. My pride returned, but my pony-boy did not. When he saw what had taken place, he took to his heels, and I never set eyes on him again. I expect he thought I had some control over the devil and was scared.

IT was easy to see that I was fairly near civilisation by one or two little amusing incidents. One evening a European camped close to me. Naturally, I invited him over to my tent for dinner and a chat. I might

mention here that I am not a teetotaler, but generally restricted myself to a whisky-soda at dinner, so, of course, I offered my guest a drink, which he accepted, and in which I joined him. After the first sip he turned to me and said he had very little opinion of my whisky. It so happened that I had got this bottle from a little native shop in the village near by. It was a well-known brand, and the bottle seemed intact, so I wanted to know what caused the polite remark. It apparently had not enough kick in it, I was told. I had to acknowledge that it did appear to be a bit weak to me also. I had taken two glasses from the bottle, but I put the cork in again, and sent my boy back with it to the shop, asking him to tell the shopkeeper that it was no good and that I would not take it.

When my guest was departing that night, he invited me over to his tent the following evening, mentioning that he would give me a glass of real whisky, as he had some with him which he had got at his club. When the time came I went over to his place, and his boy brought in two glasses of this real whisky. On taking it, I had the satisfaction of returning his remark to me of the evening before, and I told him straight I thought it a dashed lot worse than what I had offered him. He appeared a bit worried-looking when he tasted it himself, so he sent for his boy to bring in the bottle. It was the same bottle that I had had, only, naturally, more diluted. It turned out that his boy, finding that his master's whisky was finished, had gone that afternoon to the same shop and bought a bottle, which made things clear to us.

We both went into this, and finally got at the bottom of it. The honest shopkeeper had drilled two small holes in the bottom of the bottle at opposite edges and taken some of the whisky out, filling the bottle up with water by the same holes, then closed up the holes, the cork and capsule of course being in perfect order, and that is how I received it. On the bottle being returned to the shopkeeper, I suppose being determined not to lose by it, he filled the bottle up again with water, further diluting it, put a new cork in, and told the boy the capsule had got torn off.

ONE can never be too careful—a very true saying, as the following will show. The jackals and hyenas made such a row at nights that I decided to move to the out-

skirts of the town and camp near the bungalow of a police inspector whom I knew. Also there was some very good snipe-shooting near by. On arrival, I was glad to find my friend at home, and fixed up for a snipe-shoot with him for the next morning. He asked me to come round to his house about six a.m. and have a cup of tea with him before starting. I went round as arranged, and when he was pouring out the tea, he remarked that I would no doubt be glad to get some fresh milk with it. I said: 'You surely don't risk the milk?' 'Yes,' he replied, 'it is quite safe. I keep my own cow, and have it brought round in front of my window every morning and see it milked,' so that it was quite all right. Well, I poured some milk in my tea, the first for months, and, giving it a stir, I noticed one or two tea-leaves floating about on the top, and started taking them out with my spoon. In doing so I thought they looked very funny leaves. I examined them more closely, and discovered they were tadpoles. I drew my friend's attention to them, and suggested the milk might be examined, and, on pouring some into a saucer, found four or five live tadpoles. I could not repeat what I said, and a policeman always does his duty. The cowman, after milking the cow, had, on going round the side of the house, taken some of the milk, and made up the quantity with water from a stagnant pool. We drank no tea that morning, and I personally never risked milk again, no matter how it had been watched, except out of a sealed tin.

We started off for our shoot, over a large stretch of paddy-fields, and got separated at times. I had just fired at a bird, when there was a scream, and a woman I had not seen rose up. Bleeding from her breast, she came to me wailing and saying I had shot her. I could not see how it was possible, but I felt very uncomfortable about it. She demanded money. I was only too glad she did, for I felt that it would smooth things over. I gave her five rupees, and it had the desired effect.

When I joined up with my friend again, I told him what had taken place, and asked if he thought there would be any trouble about it, as I was worried. A long loud laugh was the reply. Most unsympathetic, I thought, but then he explained that I was a fool giving any money, as that was how some of the women earned it. When they got to know

that anyone was shooting, sometimes one or two of them crouched down in the rice stubble, out of sight, and, when they heard a shot and saw you somewhere near, they took a pin and pricked themselves, to appear as if some shot had got them, hoping their self-inflicted wounds would earn a rupee or two for them.

We had to proceed very carefully in this place, especially by the canals, as there were a good many muggers about, but we had a good bag and enjoyed ourselves, and had a good cup of tea—less the milk—when we got back.

Next day, I struck camp, and entered civilisation again for another spell.

Maelrubha—Saint of Pagans

DAPHNE D. C. POCHIN MOULD

IN August 1678 Dingwall Presbytery summoned 'Hector MacKenzie in Mellan, in the Parish of Gerloch, as also John, Murdoch, and Duncan McKenzies, sons to the said Hector, as also Kenneth McKenneth, his grandson, for sacrificing a bull in ane heathnisch manner in the iland of St Ruffus, commonlie called Ellan Moury in Lochew, for the recovering of the health of Cirstane Mackenzie, spouse to the said Hector MacKenzie, who was formerlie sick and valetudinarie.' Behind the brief 17th-century Presbytery record lies one of the strangest stories of Scottish saint-worship—of how an Irish missionary became almost the presiding deity of part of the North-west Highlands, and of how the pagan rites against which he had preached were revived in his honour.

Maelrubha was an Irish aristocrat, eighth in descent upon his father's side from Niall of the Nine Hostages and related to St Comgall, Abbot of Bangor, through his mother, Subtan. He was born upon the 3rd of January 642, and, as a youth, entered St Comgall's abbey. When he was twenty-nine, he left Ireland and went to Scotland, and two years later, in 673, founded an abbey at Applecross, in Ross-shire.

From the green little glen of Applecross, with its wide bay looking across to Skye, and the red hills rising behind it Maelrubha organised

his missionary work. He journeyed all over the Western Highlands and across the hill-passes to the east coast; he ventured through the islands from Lewis to Arran. The maps still mark his wanderings, for the custom of the Celtic church was to dedicate each new foundation to the man who there first set up his little cell (Gaelic, *cille*).

Maelrubha's name, however, seems to have been peculiarly adapted to alteration in men's mouths in the course of time. It is a Gaelic formation, from *mael*, a servant, and *rubha*, a headland; it crops up as St Rufus, St Mourie, and St Malvay, and in many other forms. Churches founded by Maelrubha include Urquhart (Ferintosh), Crail, Killarrow (Islay), Lairg, Strathlachlan (Loch Fyne), and several in Skye and the Outer Isles—indications of an activity quite as great as that of St Columba. Many of the Kilmorys, which are commonly supposed to be dedications to the Virgin Mary, are really corruptions of Maelrubha's name, and indicate some of the saint's movements about Scotland. Loch Maree is called after him; Lairg and Contin used to hold a Feil Maree, St Maelrubha's Fair, in August; the east coast towns held a similar fair under the name of Samarevis or Summaruff.

Maelrubha died at Applecross on Tuesday, 21st April 722. There appears to be confusion

MAELRUBHA—SAINT OF PAGANS

with another man, for a Scottish tradition claims that he was killed by the Norse at Ferintosh, though the Norse raids did not begin until some time after Maelrubha was dead. In Ireland, Maelrubha is commemorated on the 21st April, the date of his death, but Scotland always observed 27th August, perhaps because this is St Rufus of Capua's day.

In Gaelic, Applecross is still called The Sanctuary, and, although the stones which showed its limits and the carved tombs of the kirkyard are gone, there is a strange feeling of peace beside the mound which marks Maelrubha's grave. Earth from Applecross churchyard is thought to be a talisman against all manner of ill, and in sight of the saint's burial-place no one is supposed to be able to commit suicide.

MAE LRUBHA was dead, but, as in the case of Columba, his memory was cherished by the people, especially those of Applecross, of Gairloch, and of Strathcarron, in Ross-shire. And his memory mingled with that of earlier pagan rites, for it was the custom of the Christian church to take over rather than supersede. The pagan holy well was blessed, and became a Christian one; the temple served as the site for the new church; the old gods shifted slowly into the background to turn into devils and kelpies. It was, therefore, a very curious tangle of ideas that the Presbytery of Dingwall found at Applecross in 1656.

There it was that the people 'were accustomed to sacrifice bulls at a certaine tyme wpon the 25 of August, w^e day is dedicate as they conceive to St Mourie, as they call him, and that thair wer frequent approaches to some ruinous chappells and circulateing of them, and that future events in reference especiallye to lyf and death in taking of jurneys was expect to be manifested by a holl of a round stone, qrein they tryed the entreing of thair heade, w^e if could doe, to witt, be able to put in thaire heade, they expect thair returneing to that place, and faileing, they conceived it ominous; and withall thair adoring of wells, and wther superstitious monuments and stones tedious to rehearse.' Here is a mixture of reverence of a Christian saint; pagan sunwise circulating of a holy place; veneration of sacred springs—a very ancient practice; a ritual

with a holed stone, perhaps a relic of an old fertility rite; and, lastly, the heathen sacrifice of a bull, usually carried out by the local smith, who had the head for perquisite.

Again, the Presbytery tried to stop the 'poureing of milk wpon hills,' a popular method of obtaining favour with the fairies who are reported to live in the little green hillocks so common in the Highlands. And the Dingwall Presbytery also sought information concerning those 'poore ones quho are called Mourie his derilans,' and who received 'the sacrifices and offerings wpon the accompt of Mourie his poore ones.'

Maelrubha's 'derilans' are probably the mentally sick who sought relief at the holy well on the island in Loch Maree. On this island was a chapel founded by Maelrubha beside the well which is almost certainly one previously regarded with veneration by the pre-Christian inhabitants of the district. Cases of insanity were brought there for cure as late as the second half of the 19th century.

The patient was taken to the island and made to drink from the sacred well. If the well was full to the brim, it was considered a hopeful sign. An offering was made at the same time, a tree close at hand being studded with the votive coins pressed into it, and the patient was then towed round the island by a boat. Queen Victoria visited Island Maree and added her coin to the tree in the spirit of the wishing-well fancy, perhaps hardly realising the ancient beliefs on which the custom is founded.

For some reason, Maelrubha seems to have been connected with the cure of insanity, not only in the Applecross-Gairloch country, but also across the Minch, in the Outer Isles. Close to the Butt of Lewis is the squat little church called *Teampull Mholuidh* in the Gaelic, and 'the Temple' in common parlance in the district. It is generally associated with the memory of St Moluag of Lismore (died 592), and sometimes with that of St Olaf. But the curious rite for the cure of lunatics suggests to me the influence of Maelrubha's cult. The little church is restored and roofed, and stands by itself among the strip fields of Erropie village near by. There is not much about it to-day to recall the ancient ceremonies which were practised there until a few hundred years ago, and which persisted in a reduced form until last century. Lunatics were first walked seven times round the tiny church, then

sprinkled with water from a neighbouring well, which was dedicated to St Ronan, and finally tied to the altar for the night. If the patient slept, a cure was expected. The rite could only be attempted once.

APPARENTLY Maelrubha could cure diseases of the body, too. A Captain Dymes, writing in 1630, says that the people of Lewis were 'most espetically devoted to one of their Sts called St Mallonuy whose Chappell is seated in the north part of the Ile, whome they have in great veneration to this daie and keepe the Chappell in good repaire. This St was for cure of all their wounds and soares and therefore those that were not able to come vnto the Chappell in person they were wont to cutt out the proportion of their lame armes or leggs in wood wth the forme of their sores and wounds thereof and send them to the St where I have seen them lyinge vpon the Altar in the Chappell.'

Captain Dymes also relates how there was a holy of holies in the chapel, into which women were not allowed to go, and, further, that no woman with child was allowed to enter the chapel at all. At Candlemas and Hallowtide, there were special festivals at the church, with drinking and feasting going on into the night.

Martin Martin in his *A Description of the Western Islands of Scotland*, published in 1703, gives a full account of the Hallowtide festival. In this, the worship of the sea has been combined with devotion to the saints. The people met at the little church, each family bringing a peck of malt, with which they brewed a quantity of ale. One of them then waded out into the sea, carrying a cup of the ale, and threw it into the water, saying, 'Shony, I give you this cup of ale, hoping that you 'll be so kind as to send us plenty of sea-ware for enriching our ground for the ensuing year.' The sacrifice completed, the people went back to the church, extinguished a single candle left burning on the altar, and then spent the remainder of the night drinking, dancing, and singing in the fields outside.

Martin was told that the minister, with some difficulty, had stopped this ceremony, but it appears to have gone on in a shortened form well into the 19th century. Each spring, a man went out to the end of a rocky reef and called on Brianuil to send plenty of seaweed for manure. In this curious manner the Christian church was used as a kind of springboard for the age-old sacrifice to the god of the sea—a strange memorial to Maelrubha, a saint with standing equal to Columba himself.

On the Devon Coast

*Over the Channel at dawn, like hill-chains snowy-crested,
Floated the clouds, silver-tipt by the sun;
Light fell on Devon, and still to her beauty hard-breasted
Loudly the breakers run.*

*Daylight is dead, and the faraway sea-line, where France is,
Stirs like a snake, endless coil upon coil;
Here are the warrior waves that with salt silver lances
Fall on the rocks that foil.*

*Blindly the breaker runs into the cavern and quarries,
A blade in the crevice, a hammer to smite;
The moon, like a sickle awaiting some reaper that tarries,
Glow on the field of night.*

*None hears the cry of the sea like that silver cloud-haunter;
None like the moon sees the smoke of her spray
Rising where Devon runs into the sand-drift to daunt her
Over her moon-led way.*

WILFRID THORLEY.

Your Garden in April

IT can make a lot of difference to the operations that can be done in a garden during the month of April whether that garden is in the north or south. On second thoughts, I don't even like that division, because there are spots on the west coast of Scotland that are touched by the Gulf Stream, and which are very early and warm as a consequence, while there are parts of England on the east coast, even as far down as Lincolnshire, which are extremely cold. It always amazes me, for instance, to see the spring-cabbage in south Cheshire and north Flintshire turning in to cut weeks before cabbage planted at a similar time in parts of Kent. Therefore, when writing on the subject of what to do this month, I have to be very careful, and readers have got to look between the lines, and, as it were, convert what I have said to suit their own particular conditions. My aim will be to write for the normal garden, say about midway in the Midlands.

This is indeed the great asparagus-planting month, and there is much to be said for the new scheme of planting this vegetable in rows rather than in beds. Where I am, we make our rows 4 feet apart, and we set out the crowns 2½ feet apart in the rows. Of course, the land is really well manured, fully rotted compost being worked in at one good barrow-load to 10 square yards, and in addition fish-manure is spread at about ½ lb. to the square yard. If the ground is at all acid, lime is applied heavily, for asparagus will not grow unless calcium is present, and unless there is alkalinity. Use a good pedigree asparagus, like Kidners, or Bedford Farm. The one-year-old crowns that I planted three years ago cropped very heavily last year and this. They were far more like three-year-old crowns to look at, and the sticks were not only very large, but delicious.

This is a good month for grafting. Again and again I pay visits to gardens and find fruit-trees which are flowering profusely but are not cropping. The answer is that the right pollinators are not present to cause the blossoms to set. It may be very difficult to

find room enough to plant other trees, so the solution is to graft one branch of each self-sterile variety with the suitable pollinator.

The old-fashioned method used to be to saw off the branches and then to carry out 'side' or 'saddle' grafting, sometimes called 'strap' grafting. But to-day it is much quicker to leave the branches as they are growing naturally, and to use the small lateral branches varying from ¼ to 1 inch in diameter for inserting stub grafts. Any side branches thicker than this have to be sawn off altogether. These grafts or scions should be about six to eight buds long, and the base of the growth should be cut in the form of a wedge. The little lateral branch to be grafted should then receive a cut on its upper side, commencing about ¼ inch from the main branch and extending right to the base, almost as far as the centre of the lateral shoot. You can then open up the cut by bending down the lateral, and insert the wedge-shaped scion, though you must take care that some portion of the cambial tissue of the scion is contacting that of the lateral branch. The lateral when released will spring back into position and grip the scion. Then cut it off immediately above the insertion.

Another method is the oblique side-graft. In this case the scion is prepared by making two sloping cuts, each about 1 inch long, and one on either side of the lower end of the scion. Next, a shallow, oblique cut is made in the side of the branch where the graft is to be inserted, and this cut should be a little deeper than the length of the cuts at the base of the scion. The knife should then be removed from the cut sufficiently far to allow the scion to be inserted. Once the end of the scion is in, the knife can be taken out completely and the scion pushed right down as far as it will go. This type of graft is particularly useful where large branches with thick bark are to be grafted.

The cut surfaces in grafting should be waxed over, either with one of the proprietary waxes, which can be supplied by most horticultural sundriesmen, or with a homemade

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wax, which can consist of 1 part tallow, 2 parts beeswax, 4 parts resin. I once worked with a man who always used candle-grease for waxing, and this worked quite successfully except in very hot summers.

Talking of fruit-trees, it is commonly during this month that the woolly aphid colonies start to develop and spread. Now, the old-fashioned remedy is to paint the affected parts with methylated spirit, but this does not kill. It is much better to apply liquid derris with quite a stiff brush. Another pest which invariably breaks out in the middle of the month is the gooseberry sawfly caterpillar, which always strips the bushes of their leaves almost overnight. Liquid derris can be applied again properly in accordance with the instructions on the tin, the centre of the bushes being given a special dose, because it is here that the trouble usually starts.

Readers get rather tired when I talk about keeping the hoe going, but it is surprising what good work a Dutch-hoe can do this month. It isn't a question of hoeing deeply, in fact it will often do quite well if the gardener cuts through the top $\frac{1}{2}$ -inch of soil. The great thing is to kill the weed seedlings just as they are appearing or just as they do appear, and if all the weeds could be kept down during April and May there would be comparatively little trouble later. Another good general job of this character is mulching, especially the newly-planted shrubs and trees, and by mulching, of course, I mean the application of some kind of organic matter on the surface of the ground. Deacidified horticultural peat is particularly useful. By the way, if there are any newly-planted evergreens, these can do with a good syringing over with clean water in the evening.

As to sowings this month, there is plenty that can be done in the vegetable garden, starting perhaps with early carrots, peas, spinach, and turnips. Then go on to salsify, chicory, and quick-hearted cabbage, while towards the end of the month it will be possible in some districts to sow the long beetroot, a hardy variety of French-bean, and some chervil. Many will plant their potatoes about the beginning of April, and some will have to earth up this crop towards the close of the month to prevent damage by frost, or at any rate to cover the plants with straw litter.

Now is the time to prepare land for chicory. This vegetable is, incidentally, a good standby

for winter salads. It can be eaten either alone, or cut up and mixed with other saladings, or it can be boiled and served with white sauce. For the production of large roots, the ground should be double-dug, and well-rotted compost incorporated at the rate of one good barrowload to 10 square yards. Fresh farmyard manure should not be used on ground intended for chicory. After the digging has been completed, a good fish-manure should be applied to the surface at 4 oz. per square yard and be raked in. A fortnight or so before sowing give a surface dressing of hydrated lime at 3 oz. per square yard.

At sowing time, which is not until the second half of May or even early in June, the seed should be sown thinly in drills 1 foot apart and $\frac{1}{4}$ inch deep. When the seedlings are large enough to handle, thin them out to 1 foot apart. The thinnings can be transplanted if necessary. Hoeing should be carried out between the rows for as long as possible, until the large dandelion-like leaves spread over the ground and smother the weeds. Water freely if the weather is dry.

In the flower garden there is much of interest to be done. I hope to take some violet runners and plant them out in a north border. The pot-raised sweet-peas will go out into their trenches. We shall be able to plant the early-flowering chrysanthemums about the third or fourth week, as well as the border carnations. Then the primroses and polyanthus will be split up towards the end of the month as they pass out of flower, while many will want to plant out some antirrhinums.

A lot of the hardy annuals can now be sown, if this has not already been done, including such favourites as clarkia, godetia, annual chrysanthemum, eschscholtzia, larkspur, nigella, Shirley poppy, and the annual scabious. If continuous cloches are available, some of the half-hardys may also be sown. These include the China asters, which are so popular for cutting, ten-week stocks, zinnias, phlox Drummondii, and nicotiana. Gladioli can be planted, choosing a sheltered spot, and one, if possible, where the soil is fairly moist. Plant the corms 3 to 4 inches deep, and, if the soil is on the heavy side, put a little sand in the bottom of each hole first.

I shall be glad to help readers with their gardening problems. Write to me through the Editor, kindly enclosing a stamped addressed envelope for the reply.

W. E. SHEWELL-COOPER, M.B.E., N.D.H.

The Man Who Saw an Angel

MICHAEL JACOT

SOMETIMES in the evenings we would gather round him and he would tell us stories. The queerest sort of stories, half in the Bible and half from out of the back of his primitive mind. He was a big man with arms hanging limp, close to the side of the body—and he claimed he had seen an angel.

His skin was so black it seemed to have a bluish bloom on it, like a grape, and the roll of his eyes when he got worked up in one of his stories about Isaiah, or Solomon, or someone, was as white as his teeth. We used to call him Abe. If he had any other name, I never knew it. I can always picture his pink palms turned towards the front as he stood, towering over us, telling us his stories. His eyes would be upturned to heaven—which was a real place to him, a sort of top storey to his world—and he would be curiously still as if in communion with something.

His stories were mixed. I'm sure he never knew which part was biblical and which his own experience, but I know I grew up with Abe in my mind as Daniel in the lions' den, and as Jonah too. To this day, I think of all those biblical figures with skins as black as Abe's. Just as I'm not quite sure, even now, it wasn't someone in the Bible—not Abe—who got himself chased by a bear in our own woods here down at Swamp Bend.

I remember the first time he told us about his angel. It slipped out in some phrase, just as if such a visitation was as natural as turning a bend and suddenly seeing the sunset, or watching a rainbow form. We had to coax him to make him tell us more about the angel. When he eventually did, he became so insistent, most of us thought he was seeing it again there and then.

Abe worked at a big house up in Willows Hill for Colonel Masters. He was proud of

being able to read. There weren't many niggers could in those days. He was never bitter against white people. I only heard him grumble about anything once in his whole life, and that wasn't really a grumble. It was when he tried to attend a service at our church. There was a big notice on the porch about the times of the services for niggers. The verger had stopped Abe, of course, before he could enter, pointing a finger at the notice. Yet, Abe tried again and again until one day a voice suddenly said to him, 'Don't worry, Abe.' He couldn't see anyone there. 'Don't worry,' went on the voice. Then he thought that perhaps it was God who was speaking to him, so he knelt down on the pavement. 'Yes, Lord?'

'Don't yo' worry about not being able to get into that church,' the Lord said to Abe. 'I ain't been able to get inside myself yet.'

That was Abe's story, and of course a lot of the people in town thought that he was just blasphemous and wild. I must say that at times we thought he was too, especially about his angel. Some of the other niggers used to laugh at him and say: 'There goes old Holy Abe.'

I think that it hurt him very much, only he would never have said so.

ABE used to be a sort of uncle to me. My father had been killed, and as a small boy I used to follow Abe round everywhere. I got to love him very much—almost as much as my mother.

When Abe had finished talking to us, he would get out an old tin-whistle and play some hymn tunes on it, and we would have to sing. Some of the boys used to put in the wrong words, and he used to get annoyed with them. But he never touched them,

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which was a thing that I tried to explain later on.

He lived in an old shed at the end of our garden, and at night I could hear him whistling, or reading aloud to himself out of the Bible. When he read, he wore an old pair of spectacles that had belonged to the Colonel. They made it very difficult for him to see the print, but I fancy he wore them more as a sign of respectability than anything else. If a nigger had a pair of glasses in those days he was counted to be well-off.

Abe was a very kind man, and he would have given me anything. Many's the time that he would bring me a stick of candy or a large orange that he said the Colonel had given him. Sometimes when we were hungry we used to cook sweet-potatoes on a little fire behind the hut where he lived. He used to swallow these down whole, taking them straight out of the pan piping-hot.

'Abe,' I'd say, 'doesn't it burn you?'

'Burn? No! My insides are plated with copper.' And he would get me to tap on his massive chest, and bang a spoon on the buckle of his belt, thinking that I didn't see.

Sometimes he would come and do odd jobs for my mother, like chopping the logs for the winter. Sitting looking at him as he worked stripped to the waist, you could see the perspiration running in clear beads down his back from between the shoulder-blades. It made his skin glisten like the hide of a horse after a long ride. As he swung the heavy axe, I loved to watch the muscles in his arms tighten and relax like thick black rubber. He never boasted of his strength, but I once saw him take a horse by the harness and pull it from a mudbank in the bed of the river. Yet to see his fingers turning the pages of a book you'd have supposed they belonged to a woman.

THEN one autumn afternoon the news broke. I was playing out by the river with some of the kids—Abe had gone to a mission that the Methodists were holding up at Edelfields—when Mother called me, running full tilt across the field from our house, her skirts billowing in the breeze, and her small feet tripping at the slightest stone or hummock in the ground. She was very upset about something, and she dragged me from the water's edge and ran me all the way home.

I kept asking her what was the matter, but she wouldn't say anything until we were inside the house with the door shut and she was pouring out a glass of barley-water with her long, shaking hands. 'D'y' know Paul Selter's boy—Joe?'

'Yes, Ma. He comes up to play with us a lot. He's always laughing at Abe. I don't like him much.'

'Well, he's missing from home. They say he went off yesterday into the woods and hasn't been seen since.'

It didn't seem very important to me at the time. But after dark they found Joe's body in the woods, and Mrs Ames said it looked as though he had been killed with an axe. Mother closed all the windows and locked the side door before she came to bed that night. I heard her from my room. And she didn't take off her shoes either. I used to wait for them to bang on the floor every night so that I knew she was in bed in the next room.

THEY formed a party in the town to comb the area for the man who had done it, and next day on the sidewalks you could see men cleaning their guns. It was frightening for a boy—and exciting too. I was glad to hear Abe's familiar whistle—the American Battle Hymn—coming over the wall at the end of the garden that day. It was a sort of security.

The sheriff and his men were going round to each house to check up on where everyone had been that day, and a lot of the niggers had a job explaining—because it was Sunday, and most of them had been asleep. They were scared silly. The mere thought of a lynching turned them dumb and witless.

I was relieved to see from my window that they didn't stay long with Abe. There was hardly a minute's break from the time the sheriff drew up in the new 'T' model and the time Abe started blowing on his whistle again.

But they came back for Abe.

Just before supper, the sheriff pulled up at Abe's place again, and I watched them through a knot-hole in the fence. I could see into the window of the hut through a sort of scribble made by the branches of the beech-tree. I saw Abe's head jerk up, and I heard the bang of the book as he put it down on the table. Then the muffled voice of the sheriff. Before

THE MAN WHO SAW AN ANGEL

I could make out what it was all about they came out again—with Abe. Halfway across to the car Abe stopped, and turned back for his Bible and his whistle. The car was gone in a cloud of thick sandy dust before I fully realised the truth.

I found out later that they had locked up six niggers.

The niggers were in jail for five or six days—and we had not been allowed in to see Abe—when the sheriff said that he was going to let them all out. There wasn't enough evidence to hold any of them, I heard someone say.

THAT night the town was as quiet as I had ever known it. It was as quiet as the river in the early morning when the sun was on it and you knew that at any moment it would start to get choppy with the boats and things. It was a strange sort of silence—so still that you thought it made a noise. Lights were up in most of the houses, but you couldn't see in because the curtains were drawn. Down our end of the town people were huddled together in groups as if they were expecting something to happen. There was a big meeting on over Saunders's Store. Through the curtains, you could see men moving and banging on the table with their fists.

From my window you could look over most of the town. The house was on a slight incline, on a bend in the road. About the only place that I could not see was the sheriff's place and the jail. But I could imagine how things were there. He was only a little man our sheriff, but as soon as you saw his eyes you knew that what he said was true, and had to be respected. He would have all the men out ready. He himself would be polishing his boots. He always did when there was trouble. He would sit back on the edge of a chair and spit. The spittle landed clean on the tip of the brown leather cap, and he rubbed it in with a piece of bone.

I lay in bed a long time that night watching the reflection of the flickering lamps on the ceiling. There was a sort of halo round them, and somehow it made me think of Abe. Perhaps it was because it looked a bit like an angel. The thought of him sitting there in jail, blowing on the whistle, stuck like a piece of apple in an empty tooth. When I was not thinking of that, I saw him moving

about the yard under the weight of a log, his legs crossing and recrossing like a pair of scissors.

I MUST have fallen asleep, for I woke and sat up with a start at the sound of voices. The still silence of the town had been broken. At the window I could see people running out of their homes and into the street in their nightshirts. Somewhere behind the tall building which held Saunders's Store, lights were flickering in angry short flashes. Kerosene torches. Then round the corner of the store I saw the head of the column. It swung abreast of the road, and filled it, like a flood taking the main street. The men in the leading file carried lanterns, and held them high above their heads on poles. Behind them were men with torches made from short sticks, with old fish-tins on the top filled with kerosene. As the column came on, more people joined them, clattering up the sidewalks like a lot of kids let out from school. When they had reached the corner of Lincoln Street, by the new hotel that they were building, someone started singing a hymn. Maybe they had been singing before, but they had been too far away for me to hear. I thought of Abe in the jail. He would most likely be singing too. I didn't wait to ask Mother if I could go. I just put on my boots and crept down the stairs. In the parlour I could hear her voice talking in low whispers with Mrs Ames. Careful not to step on the creaking board by the door, I slipped out into the night.

I joined the column near the front as it passed by the school. They had stopped singing now, and everyone seemed to be looking ahead, their faces grim and set like a lot of men in a picture, as if they had been caught and held still. Only their legs were moving. In the light of the flares all the shadows were thrown upwards instead of down, and occasionally I caught sight of a face that I knew—ruddy and harsh. There were some other kids there too, and I suppose they were feeling much the same as I was—a bit frightened, and a bit excited.

As we reached the square I could see the sheriff had drawn up his men in front of the jail. They had rifles, and stood uneasily, their hands on the triggers, waiting like men before a prize-fight, nervously. Now and again the head of one of the men would break

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into the light from the torches, like a fish breaking the surface of a pool, shiny and wet with the heat of walking and nervousness.

WE all stopped in the square, and one of the men in the front rank went forward with the lantern and spoke to the sheriff. I couldn't hear what he said. We all waited. In a second there was a stone-like silence, and then the man came back and jumped on to the corner of the base of the fountain. Before he began to speak I caught a glimpse of Abe, his face pressed against the bars, and farther along two of the other men. Abe had his hands gripped round the bars on either side of his face, as if they were something that he valued and didn't want taken away. He was rolling his eyes and muttering something. I didn't understand what the man on the fountain was saying. I couldn't listen, with Abe's scared face there in the half-light. I tried to wave, but he never saw me. There were too many of us.

When the man had finished, he got down and went over to the sheriff again. People began to boo, and one or two picked up some flints from the ground and flung them aimlessly. The man and the sheriff were arguing now. The man throwing his arms around, and the sheriff calm, but firm. Suddenly, the whole crowd surged forward, and pushed within a few feet of the jail.

There was the crack of a shot—and then a roar went up. All heads seemed turned in one direction—a man was lying on his side, and groaning. People were straining to see what had taken place. Then things began to happen. I couldn't see much. I was too small.

By the time I had climbed on to a windowledge the jail was alight. . . . Tongues of flame were licking at the dry wood. On the roof I could see the flare that had started it all. The sheriff was trying to climb up and get it down, but three men were holding on to his legs.

Faces were bright now, glossed with sweat and the light of the fire. A cheer went up as one of the hot timbers fell inside from the

roof. And above all the noise and battering I heard the scream of a man—like nothing that I had heard before. I glanced quickly to see if it was Abe, but he was still at the window, eyes upturned, his lips moving as before. I felt sick inside.

I looked again for Abe, but his face was not at the window now. I wheeled round and edged away through the crowd. Halfway up the hill I turned my body to look once more, but my head would not turn with it.

There was a cool rock down by the edge of the river behind the house. I lay on it on my stomach and let my head fall forwards into the fresh water. There was a light on the water. A bright sparkling light from the moon. I wondered if that was what Abe's angel looked like.

THE jail was burnt to the ground, and Mrs Ames brought my mother a piece of blackened chain, with a medallion on the end, that she found in the ruins.

In the afternoon I saw one of Abe's religious friends. He came up to the place where Abe used to live, and at first I thought that it was Abe. He had the same sort of tight curly grey hair, but by the time that I had climbed through the gap in the fence I saw that it was only old Joe. He placed his finger to his mouth and crooked it at me. I followed him into Abe's hut. When he had shut the door he put his hand on his head and started to scratch. Then he began to look around in the drawers and under the bed and behind the door for something. Eventually he found it. It was a shirt. He tucked it down inside his own shirt and patted it flat. At the door he turned to me. 'Yo' know who did kill that boy? Yo' heard? It was a man they found up at Edelfields. They caught him, and he told 'em he did it.' He rolled his eyes up so that I could hardly see anything but the whites. Then he was gone, trudging out through the dust.

I took it that Abe had given him the shirt.

What happened to the tin-whistle and the Bible, I don't know. I expect they were burnt at the jail.

Modern Mammoths

The Musk-Oxen of the Arctic

FRANK ILLINGWORTH

PLANS are going ahead for a census of the mammoth's only living relative, the fabulous musk-ox. Trappers, lumbermen, explorers, Canadian and American survey-aircraft, Eskimos, and Indians, with the support of the Arctic Institute of North America, are to record the number of musk-ox roaming the bleak wastes of Alaska, Arctic Canada, and Greenland to points within six hundred miles of the North Pole.

Just as colonisation saw the vast herds of American bison reduced to the verge of extinction, so the Arctic's snorting, thundering herds of musk-oxen are being decimated. 'Protection' saved the bison from extinction, but to safeguard musk-oxen is not so easy, for they roam an arctic area where game-laws are difficult, if not impossible, to enforce and where Man in the nature of things is predominantly a hunter.

In unexplored Peary Land (far-northern Greenland) the herds are as vast as ever they were: two members of an American expedition to near-by Ellesmere Island last summer used a helicopter to photograph one herd some two hundred strong. In the more southerly latitudes, however, few herds exceed a dozen oxen, and the purpose of the proposed survey is to answer the questions: How can the dwindled herds be built up again, and how can the immense far-northern herds be maintained in face of encroaching civilisation?

Seen in his wild state, the musk-ox might be a vision from prehistoric days. He seems unreal, his great brown eyes staring fearlessly from a bearded face, his shabby stomach-hair waving like a ragged curtain in the breeze as daintily he nibbles the four-inch polar willows that fringe Greenland's northern shore.

The tranquillity of mountains rests over his self-absorption, and in his body is the

wind's song of wanton power. Yet he stands on elegant hoofs with the poise of a dancer. Watch him moving slowly among the great boulders of the glacial moraines. In a zoo he looks ponderous, even clumsy, with his broad head and thick neck; but in the wild his grace is as marked as his power, and the latter is indeed awe-inspiring when he storms across the ice and rock at the head of his herd.

THE musk-ox has only two enemies—the wolf, and Man. One of the most impressive sights one can hope to see in the Arctic is that of a herd of musk-oxen forming up to do battle. 'I've studied the musk-ox for twenty years,' the famous Greenland hunter, Ole Johansson, told me, 'and the only thing I can say against him is that he's too brave. If I didn't have to eat, I'd never shoot a musk-ox. It's always the same—the bulls step forward one by one to be slaughtered.'

When a herd senses danger, the bulls group themselves around the cows and calves, and the leader of the herd steps forward to give battle. He seldom charges, preferring to await attack. The Danish explorer, Aage Gilberg, is fond of describing what happened when he tried to photograph the leader of a small herd one brilliant summer's day in Greenland. His companion, a local trapper, insisted that he could get a head-and-shoulders. 'Don't be scared,' he taunted. 'Get closer—closer! He won't charge.' Gilberg edged to within twelve feet of the great bull, and, by then, almost believing the hunter, he was focusing, when the monster charged. Aage Gilberg admits that he moved quicker than he thought possible!

Poised at the head of his herd, immense horns lowered, the bull musk-ox is an absurdly

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simple target. Shoot him, and the next bull steps forward, lowers his horns, and with apparent contempt for death awaits attack. Showing a simple and touching faith in the bravery of their bulls, the cows and calves scatter only when the last of their males has fallen, and sometimes they, too, advance in order of precedence to give battle. Thus a whole herd can be slaughtered with less danger to the hunter than he would experience in making the crossing of Piccadilly or Fifth Avenue.

The musk-ox is hunted mercilessly for food, not only by Eskimo and Indian, but also by explorers. The ten or so Danes of the expedition now in Peary Land are relying almost solely on musk-ox for their fresh meat. So it has always been. Indeed, the polar ox has saved the lives of more polar explorers than has any other animal. For example, but for a small herd of musk-oxen, Peary and the negro Mat Hansen would not have survived their early assault on the North Pole. They and their huskies were near death from starvation when they saw four great oxen browsing on the polar poppies of Greenland's far-northern shore.

The husky demonstrates an almost unbelievable love for the flesh of musk-ox. One whiff of musk-ox scent transforms it into a salivating fury. Just after the three members of the Mylius-Erichsen expedition turned south on their North Greenland trek, one of the Eskimo dog-drivers, Gabrielsen, noticed that six of his team had made off during a rest period. Hurriedly Gabrielsen followed their trail. Their footprints led over the snow towards the mountains, and a mile from the camp at the edge of a perpendicular precipice he came upon the reason for the dogs' disappearance—the snow was trampled with the hoofs of musk-ox. Gabrielsen put on speed. That a pack of huskies can pull down a musk-ox he knew well enough, but he also knew that one or two of the animals would certainly be killed by sweeping horns unless he came up with them before the musk-oxen formed into a *karre* to give battle. But he had seen the last of five of the six huskies. The tracks vanished where the snow gave place to rock, and he was on the point of turning back when the howl of a dog drifted up from the valley. Mylius-Erichsen edged to the tip of the precipice and peered over. A movement caught his eye, and then he spotted two animals: an ox lay dead, and

the husky was sitting on its haunches, gorged, contented, unhurt, and sheltering from the first flakes of a rising snowstorm.

BLIZZARDS see the bull musk-oxen give their broad backs to the wind, forming a circular wall of fur and flesh within which the cows and calves shelter. The herd may stand thus for days until only their humped shoulders show above the snowdrifts. A Danish trapper, Nils Aagard, bent against a blizzard, stepped unknowingly on to the snow drifted over a group of musk-ox. The result was embarrassing, for in the confusion he was hurled from his feet by a pair of horns with the power of a bulldozer in their scimitar sweep. Fortunately, he landed uninjured, and the musk-ox did not trouble itself to investigate.

With summer, the musk-ox herds of the Far North browse on the delicate willow-buds sprouting from beneath the stones of an inhospitable land, each herd led by its strongest and most experienced bull. He knows where the best pastures are to be found, and the cows, eating constantly to build up fat for the coming winter, follow his twitching tail with blind confidence.

Still, the time comes in every old leader's life when he is challenged. Then the clash of battle rings across the mountains and muskeg, the clash of frontal bones as two tons of brawn meet in fearful head-on impact. The fight starts with a snort of rage and the thud of impatient hoofs threshing the ground. The cows and calves draw away to watch. The two bulls meet with the report of a gun. Both animals rebound with the force of the impact, and, heads still lowered, back away from each other before again charging. First one and then the other bull wins an advantage, forcing his adversary to the ground either with the sheer power of his charge or with his horns. The struggle might continue half-a-day, until the leader of the herd is victorious, or defeated, when, too proud to take second place, the old fellow mouches away alone, stopping every few yards to look back at the herd he might have led and protected for ten years.

The musk-ox may normally be docile, but the old bull, driven into exile by a younger beast, is moody and dangerous. He remembers his years of unchallengeable kingship, and he grows irritable in his loneliness.

MODERN MAMMOTHS

When in this state, he will charge without provocation. Britt Hoffseth, a Danish girl with a mind for adventure, will confirm this. She was sleeping alone in a tent amongst the glaciers of Clavering Island, off north-east Greenland, when the thunder of hoofs crashed into her subconscious mind. She scrambled from her sleeping-bag only just in time, for horns tore the tent from the ground, and with it the rifle she was using as a tent-pole. The great animal almost pirouetted on his dainty hoofs, and returned to the attack, the rifle falling from the tent, which was still entangled with his horns. As the musk-ox charged a second time, Britt deftly side-stepped, grabbed the rifle, rammed a cartridge into the breech, and, side-stepping a third time, shot the infuriated bull as he again thundered by.

There have been instances of an exiled bull venting his spleen on inanimate objects. Two Eskimos, hunting in Arctic Canada, saw a lonely old bull charge a boulder repeatedly,

although with each impact he knocked himself out! Likewise, a Norwegian trapper in north-east Greenland had the unenviable experience of seeing a crusty old bull charge the door of his log-cabin. The great beast hurtled straight through the structure, and only by a miracle did the trapper escape uninjured.

THE arctic ox was common throughout Europe, including the British Isles, during the Ice Age. With the mammoth he retreated northwards as the ice-cap receded. The mammoth died out; the musk-ox survived. But to-day the arctic ox faces the fate of his extinct cousin. The threat to his existence becomes more marked as civilisation moves northwards, and the coming survey of his numbers and study of his habits will help towards protecting the modern mammoth when civilisation moves into his last major strongholds.

The Sea-Shell

*Now that I am far away,
Sea-shell from that distant shore
Where the rushing waters play
On the littered island floor,
Sing again of wind and foam
Softly in my listening ear,
So my dreams shall take me home
To the sounds I long to hear.*

*There's a place where ripples run
Lightly on the level sands,
And when mountains hide the sun
Wild wings cover twilit lands;
Ripple-song, and wild bird note,
And the breeze's low refrain,
Sea-shell of the silver throat,
Echo them for me again.*

*Green enchantment of the skies,
Fiery spark of evening star,
Hills where lapping water lies,
Mountains lonely and afar—
These the murmur of the shell
To my eager vision bring
While I dream beneath its spell,
Time-forgetting, listening.*

ELIZABETH FLEMING.

Science at Your Service

CHANGING LAMP BULBS

ONE of the most irksome tasks in many buildings is the replacing of an electric-light bulb at a high light-point. However, it is pleasant to report that a 'lamp changer' designed to simplify this irritating task is now being made.

The bulb is held in four rubber-faced claws, but a control-lever on the handle of the appliance enables the grip to be released as required. The handle is, of course, long, and can be extended by additions for dealing with light-points at heights between 10 and 25 feet. There must be many public buildings where such a tool would prove invaluable.

AN ALL-ELECTRIC PRESSURE-COOKER

A plug-in all-electric pressure-cooker is now being manufactured in this country; it is the first and only pressure-cooker of this type, and is available in two sizes, with 8 and 3 pint capacities.

The control of the current supply by the pressure developed is a significant feature. The heat source is a 750-watt element. In an 8-10 minute operation, this produces a pressure of 20 lb., and the current automatically switches off. When, however, the pressure drops to 15 lb., the current comes into automatic operation again. This control by pressure is not the only safety device. Should the pressure for any reason exceed a desirable amount, the usual safeguards are present. A steam-release valve operates at 28 lb. and a fusible safety-plug blows at 30 lb. Incorporated in the lid, a pressure indicator fitted with a rubber diaphragm, not only shows when cooking-time commences, but also acts as a safety device, releasing over-accumulated pressure. The appliance is constructed of cast aluminium, is highly polished, and the handles and safety-valve knob are black bakelite. The cooker has been approved by the British Good Housekeeping Institute. A very clear instruction-card for hanging in the kitchen is provided, and ample cooking-time information for most dishes is set out in tabular form.

AN OIL-FED FIRE-BLOCK

An interesting and entirely new appliance for the open fire or grate is being pioneered. It is, broadly speaking, a specially prepared fire-brick, whose porosity enables paraffin-oil or other suitable heavy oils to be slowly combusted. The centre of the block is composed of a non-inflammable chemical crystalline substance, and this is surrounded on five sides by a porous material which acts as a wick when impregnated with oil. The whole is encased in an iron container, finished on the outside with a plastic coating. When in operation, the block itself remains cool, for only the exposed surface of the chemical substance becomes hot enough to volatilise the combustible oil-vapours. The block can be extinguished by cutting off the air-supply with the lid of the container. It is claimed that the block has a working life of about two years. A pint of paraffin will burn for several hours. The block is quite simply placed into an ordinary open grate. The price of this novel product is very low.

SAFETY SHOES FOR LADDERS

The 'shoes' are not for the ascender or descender of the ladder—they are safety rests for the legs of ladders, made of aluminium alloy with a nonslip rubber-tread surface on the under side to resist slipping tendency. A pair of these shoes gives an area of contact with the ground or floor of 38 sq. inches. One pair may be used for a variety of ladders. The older-known safety devices are usually fixed to each ladder, and generally give a rather smaller area of contact with the surface. Another advantage of this recent type is that the weight-load is spread, and the tendency of the ladder to sink into soft ground is therefore minimised. At a recent test with these shoes a pulling force was applied horizontally to the bottom rung of a ladder carrying a man on the third rung: the force had to reach 144 lb. before slight movement occurred. These safety devices are not very expensive, and are marketed by an internationally known ladder-making company.

SCIENCE AT YOUR SERVICE

A ONE-MAN SACK-MANIPULATOR

Here is an excellent example of necessity as the mother of invention. Ever since sacks themselves were invented, sack-filling has been a tedious operation, requiring one man to hold up the sack and keep it open whilst another man fills it. A coal-merchant in a small country village, harassed by the perpetual shortage of labour, constructed a sack-holding and sack-opening appliance, and this homemade device was so effective that it has now been developed as a commercial machine. Enabling one man to conduct the total operation of sack-handling and -filling, it is likely to be of great labour-saving value in many trades, especially in the fuel trade and in farming. Where sack-packing is regularly a part of a business, it is claimed that the cost of this appliance is recovered by the labour-saving in two weeks' use.

It is a sturdily built stand with two spreader-arms descending from a horizontal single-barred arm at the top. These arms hold the sack's mouth open. They are controlled by a quick-release lever for hand operation, situated on the top arm of the machine, and also by a foot-operated locking device placed at the bottom of the stand. One man, with both hands free, can position a sack before filling by means of the foot-pedal device. The sack is then retained in an ideal filling position until, with one hand only, the operator applies the release lever. Tests, measured with a stop-watch, have shown that one man can set an empty sack into position, fill it, and remove it, all in 55 seconds. Although strongly constructed, the appliance can easily be carried about, so it may be regarded as a mobile rather than fixed piece of equipment.

A USE FOR FRUIT-STONES

Fruit-stones have long been a bulky waste in the jam and canning industries, but an industrial use for them has now been reported. The stones, if ground and screened to a uniform size, provide a valuable soft grit for cleaning metal surfaces in sand-blasting machines. There are a number of cases where the needs for precision and perfection of surface finish make it impossible for sand or shot to be used. The soft grit from ground fruit-stones has been found most effective in such instances. It will remove paint and rust, and it does not damage aluminium alloy parts

or surfaces. It has been successfully tested in decarbonising aircraft-engine heads, pistons, etc. It is not likely, however, that this new use will create a market for all the fruit-stone wastes from the food industry. Little more than a hundredweight of the ground material is sufficient for one week's cleaning use in a sand-blasting machine. In one test, eighty-eight engine-sets were cleaned with 140 lb. of the fruit-stone product. This recent discovery will benefit the engineering industry far more than the jam or canning industries.

A NEW LIFE-SAVING APPARATUS

Hopeless air conditions frequently defeat life-saving work in fires or in mining accidents. After fifteen years of research, a new and important breathing apparatus has been developed in America. It is the usual mask attached by a pipe-line to a chest-carried canister. What is novel is that the canister contains a chemical material which evolves oxygen, absorbs exhaled carbon dioxide, and controls the moisture build-up in the enclosed system of the apparatus—all three of the major problems in artificial breathing appliances are simultaneously solved by the one material. Even when carrying out heavy operations, a man can rely upon the canister charge for one hour. In fire-fighting the apparatus can be worn under the hood of heat-resisting clothing.

This is entirely a chemical achievement. It has depended upon finding a method for fairly large-scale production of the chemical used, namely, potassium superoxide. As this chemical contains a readily released excess of oxygen, it provides the essential element of breathable air; but, when oxygen has been released, alkaline potassium oxide is left, and this absorbs the exhaled carbon dioxide. Sodium superoxide could have been produced in sufficient quantities, but many efforts to employ this similar chemical substance had failed. Until recently, the potassium superoxide could be made only on a small, laboratory scale. Research by the U.S. Navy, in 1935 and after, finally developed a satisfactory process, and to-day a safety appliance company in America is using this process to produce between 3 and 5 tons per day of the once-elusive compound.

So far as is known at present, this substance and apparatus is obtainable in America only. It must be hoped that its availability will become much wider without great delay.

CHAMBERS'S JOURNAL

SLIMMING THE REFERENCE-LIBRARIES

A modern problem, probably realised only by librarians, is the increasing space required by the up-to-date and comprehensive reference-library. Where a century ago the shelf-space needed could be measured in hundreds of yards, it is no exaggeration to state that to-day miles are wanted. And each branch of knowledge, particularly the scientific subjects, is fast expanding, to say nothing of the development of entirely new branches. The wartime limitations upon book production and supply temporarily concealed this problem in Europe, but its seriousness is again becoming acute. Other libraries besides those used by academic and technical students have the same difficulty. The daily-newspaper publishers, who must keep files of all past issues, are yearly requiring more space for their archives. Then again, such libraries as the British Museum Library and the Bodleian Library in this country, which keep a copy of every book that is published, have a progressive space-problem that is indeed frightening.

In America, science is coming to the rescue of perplexed librarians. The microcard, upon which fifty to a hundred pages of a book can be filmed, or twenty pages of a full-sized newspaper, is being produced by a number of firms, and is invading the libraries. The cards are postcard-sized, like the index cards now employed in most catalogue index systems. They are fitted into a microreader, and the greatly enlarged images of the contents can then be read on a screen. Small-unit reading-rooms are, of course, required, and initially the extra space needed for these offsets some of the space saved by keeping microcards in cabinets instead of books on shelves. Since the pages of a book or newspaper are filmed on to the cards, they are photographic positives not negatives, and, to reproduce them on a screen, transmission by reflected light is necessary. This has made the design of a simple magnifying instrument somewhat difficult, but it is said that this problem has now been successfully overcome. Some American newspapers are beginning to adopt this method of filing their past issues.

The cost of publishing a reference-book in microcards rather than as a normal bound volume is not high, provided that a sufficient number of cards is ordered; indeed, the expense is considerably lower than that of book production. One possible disadvantage is that cards suffer wear and tear much more

easily than books, and a small abrasion or deposit would obscure much more microprint than would be the case on a similar area of normal-sized print. Cards will therefore need to be renewed in libraries more frequently than copies of books.

So far this seems to be a predominantly American development, though some German work with microphotographic negatives is reported to be making progress. The introduction of the microcard into libraries will probably be very gradual, but with each year's crop of new books the necessity for some form of 'dehydration' to save space is growing. It is not a method of publishing likely to invade the home and the realm of lighter reading.

LIGHTWEIGHT CONCRETE

A mineral of mica type, which expands to twelve times its original volume, is being increasingly used as an aggregate for concrete. As a result, a light aerated concrete is obtained, which is an exceptionally good insulator against heat and cold. Being a mica, the mineral is completely fireproof; it is also rot- and termite-proof. At present, this new type of concrete is being employed for pre-casting sections of bungalows for export to tropical countries. A specimen bungalow has been set up in London for inspection. Erection is claimed to be a five-day job for four men, and, although prefabricated, the bungalow is considered to be a permanent building. Originally, the special mica was found only in America, but the discovery of similar deposits in Africa and Australia has enabled the development of this new building material to take place in England and to play an expanding part in our export drive. In time these bungalows may also be built in Britain.

TO CORRESPONDENTS who wish fuller information regarding new inventions, publications, etc. mentioned here, addresses will be furnished, when possible, if (and only if) a stamped addressed envelope or postcard for a reply be sent to the Editor, *Chambers's Journal*, 11 Thistle Street, Edinburgh. To avoid delays, requests of this kind from correspondents abroad will be forwarded to the manufacturer or agent if stamps, postal orders, or imperial or international reply coupons are enclosed for the purpose. The issue of the *Journal* and the heading of the paragraph in which the object of inquiry is described should be given in order to facilitate reference.

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